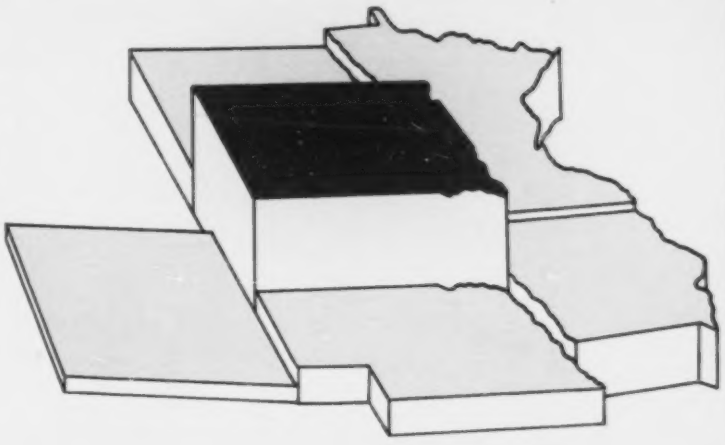
11/25/85 U8595-1

SOUTH DAKOTA Business Review

September 1985
Vol.XLIV, No.1



Published by Business Research Bureau, The University of South Dakota

		SOUTH DAKOTA			UNITED STATES		
General Indicators	Latest Quarter	Latest Quarter	Year Ago	Percent Change	Latest Quarter	Year Ago	Percent Change
Personal Income ($ Mil.)	1985-1	7,899	7,593	4.0	3,129,096	2,906,532	7.7
Farm Prop. Income ($ Mil.)	1985-1	621	810	-23.3	19,475	27,787	-29.9
Non-ag Employment (Thous.)	1985-2	247	249	-0.8	97,324	94,013	3.5
Unemployment Rate (%)	1985-2	5.2	4.1	26.8	7.2	7.4	-2.7
Total Employment (Thous.)	1985-2	338	341	-0.9	106,958	105,212	1.7

Note: All U.S. data seasonally adjusted except for the unemployment rate and total employment. For South Dakota data only personal income and farm proprietors' income are seasonally adjusted.

SECURITY AND CONTROLS IN A MICRO- AND MINICOMPUTER ENVIRONMENT

Karen J. Jonas, Kathryn J. Nordstorm, John E. Powell

INTRODUCTION

The computer has had a significant impact on the business world during the past few years. Automating the office has become one of the most cost efficient phenomena of our time; however, along with the cost efficiency has come a new set of security and control problems. With the advent of the micro- and minicomputer and the sudden affordability of ownership, many small businesses are investing in these automated systems. Small businesses, in contrast to large businesses, generally do not have adequate staffing to implement "segregation of duties;" therefore, they are forced to use different types of controls, or, as is often the case, they choose to go without the appropriate controls.

Much has been written on the topic of auditing in an Electronic Data Processing (EDP) environment. However, a great majority of the research in the last decade is concerned with mainframe systems. Only in the last two or three years has attention shifted in light of the sudden popularity and the tremendous capabilities of the personal computer. Although attention has shifted to this subset of the EDP area, little research has addressed the problems encountered, and the solutions to these problems, when auditing in this type of environment. *Continued on page 4*

About the authors: Karen J. Jonas, M.P.A., C.P.A. and Kathryn J. Nordstrom, M.P.A., C.P.A. are both graduates of the School of Business, University of South Dakota. They are presently employed by Wohlenberg Ritzman and Co., C.P.A.'s. John E. Powell, D.B.A., is Professor of Quantitative Business Analysis at the School of Business, University of South Dakota.

TABLE OF CONTENTS

Security and Controls in a Micro- and Mini- Computer Environment.....1
Karen J. Jonas, Kathryn J. Nordstrom and John E. Powell
Trend of Business.....2
Retail Sales Tax Performance in First Half of 1985 - Trend and Real Growth.....6
Randall M. Stuefen
General Economic Tables.....10, 11, 12

SOUTH DAKOTA BUSINESS REVIEW

September, 1985 Vol.XLIV, No.1

Business Research Bureau
School of Business
The University of South Dakota
605-677-5287
D.E. Clement, Dean, School of Business

ADVISORY COUNCIL
Robert C. Atkins, John Morrell & Co., Sioux Falls
Ben Blumenthal, Blumenthal's, Rapid City
O. Robert Brancel, Bank West, Pierre
Donald E. Culhane, Culhane's Dairy, Mitchell
Kent E. Edson, Dacotah Bank Holding Company, Aberdeen
Richard C. Erickson, Rushmore Mutual Life Insur. Co., Rapid City
Robert H. Frei, Commerical State Bank, Wagner
Kenneth B. Jones, Yankton Drug Co., Yankton
C.P. Moore, Norwest Bank, Sioux Falls
Allan H. Moum, Larson Manufacturing Co., Brookings
Rudolph A. Nef, Valley Queen Cheese Factory, Inc., Milbank
Jack G. Rentschler, Rentschler's Standard Truck Plaza, Sioux Falls
Jack Riordan, Mountain Company, Inc., Keystone
Walter J. Schramm, Schramm Furniture, Winner
Frank E. Short, CPA, Rapid City

BUSINESS RESEARCH BUREAU
Donald W. Lewis, Director
Randall M. Stuefen, Associate Director
Nancy Nelson, Economic Analyst
Bill Powell, Systems Analyst
DeVee Goss, State Data Center Director
Nancy King, Statistical Clerk
Mary Bartels, Administrative Secretary
Ruby Plate, Data Base Administrator
Don Greenfield, SBDC Director
Dick Barta, BIA Program Director
Tasha Tupper, Intern Editor

Any material in the **Review** may be reproduced if credit is given.

The opinions expressed by our contributors may not be those of the Business Research Bureau, the School of Business, or the University of South Dakta. **The South Dakota Business Review** attempts to stimulate and inform but not to convert readers to any particular view point.

Bulk postage paid at Vermillion, South Dakota 57069. Published quarterly in March, June, September and December.
Mailed free upon request
POSTMASTER send address changes to:
Business Research Bureau
School of Business-USD
414 East Clark
Vermillion, SD 57069-2390

TREND OF BUSINESS

THE U.S. ECONOMY

The national economy is not expanding at the recovery rates of 1983 and 1984, but it is continuing to expand. Much of the performance in the economy is being tied to the durable goods sector with lower interest rates generally available. Sales of single-family new homes showed moderate growth in June and July of 1985. Auto sales had a blistering month in August spurred by the financing incentives from automakers. Much of the performance in national retail sales for the month of August is being attributed to the auto sector. Real consumer spending posted a 2.2% annualized gain since April of this year. Domestic manufacturing and capital spending remains sluggish and is lagging the level of consumer spending.

Inflation is estimated to remain relatively stable in 1985 at a rate of 3.6% as measured by the Consumer Price Index. There is growing concern over the issues of a rising trade deficit, a weak farm economy and the strength of the dollar. There has been an international effort to weaken the dollar. This effort should improve our balance of trade but may encourage inflation toward the end of 1985 or into 1986. Economists cautioning about this possibility of inflation note that cheaper goods from abroad have been putting downward pressure on domestic price increases.

The August concensus forecast for real GNP growth in 1985 is 2.6% which is .2 percentage points lower than was the concensus in July. The forecast for 1986 is 3.0% growth in real GNP with inflation as measured by the consumer price index increasing at the rate of 4.2%. There is little indication that a recession is eminent.

SOUTH DAKOTA ECONOMY

South Dakota's indicators of business activity (adjusted for seasonal variation) reflected slow to no growth for the most recent quarterly comparisons. South Dakota's personal income fell nearly 2 percent in the first quarter of 1985 compared to the previous quarter. Part of this drop was attributable to the weak farm economy. For this same period farm income fell nearly 24 percent.

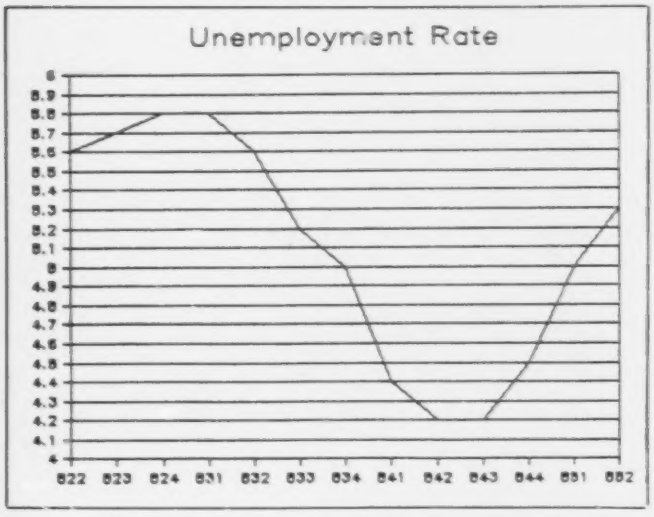
Nonfarm employment in South Dakota rose 3.5 percent in the second quarter of 1985 compared to the first quarter. Construction employment dipped 0.5 percent for this period. Compared to a year ago construction employment showed a 6 percent gain.

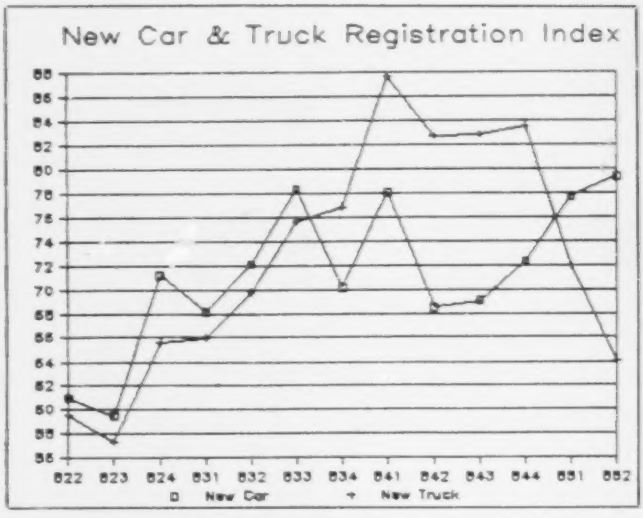
South Dakota's unemployment continued to edge upward, rising from 5.0 percent in the first quarter of 1985 to 5.3 percent in the second quarter of 1985.

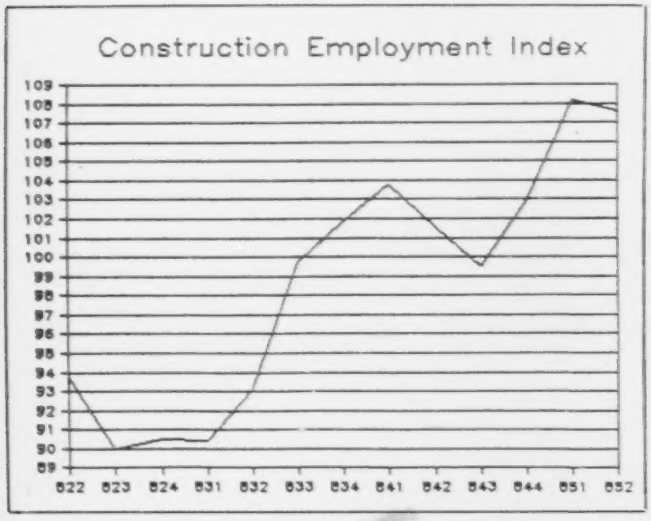
Reasonably low interest rates for the purchase of new cars has given a boost to this indicator. Sales rose 15 percent in the second quarter of 1985 compared to this period a year ago and increased 2 percent compared to the previous quarter.

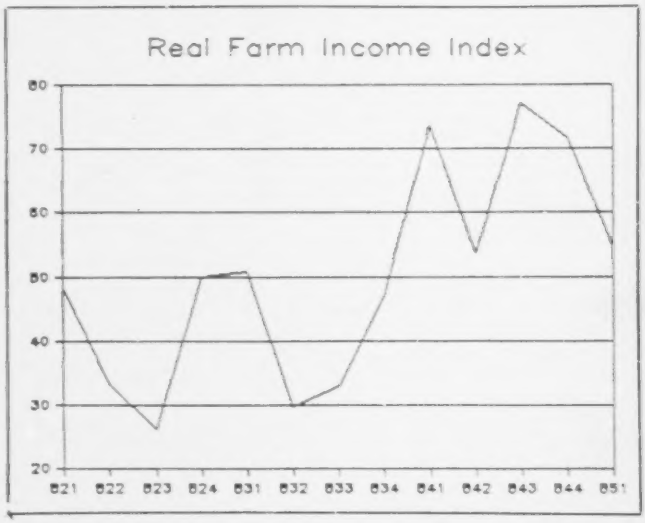
SOUTH DAKOTA BUSINESS & ECONOMIC INDICES

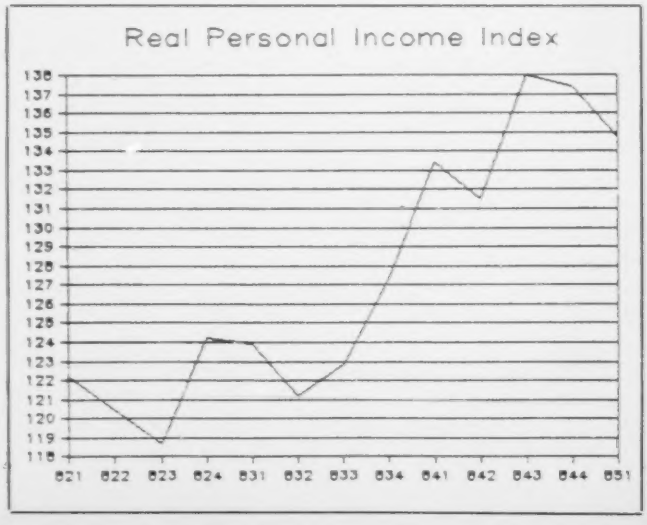
Quarterly Data 1982-1985
Adjusted for Seasonal Variation











Continued from page 1

Most public accounting firms have clients who employ micro- and minicomputers for their accounting systems. It has generally been thought that because these companies cannot economically employ "segregation of duties" as a control, their computer generated data cannot be relied upon. The purpose of this research is to provide some means by which to evaluate the adequacies of the EDP systems used in businesses of small to medium size.

There has been great reluctance on the part of auditors to audit computerized applications. With the business environment becoming more and more electronic, paper evidence is disappearing; thus, in order to retain the credibility of the audit function, auditors are forced to become more involved in the computer environment.

Generally Accepted Auditing Standards (GAAS) state, "The examination is to be performed by a person or persons having adequate technical training and proficiency as an auditor." With the widespread use of the computer in the business environment "adequate technical training and proficiency" requires auditors to understand the computer and its applications.

Statement on Auditing Standards (SAS) No. 1, "The Auditor's Study and Evaluation of Internal Control" states,

> There is to be a proper study and evaluation of the existing internal control as a basis for reliance thereon and for the determination of the resultant extent of the tests to which auditing procedures are to be restricted.

This statement applies not only to manual accounting systems and large computerized systems, but also to small computer systems when the company is independently audited and uses electronic data processing equipment for recording its financial data.

In our research we developed a questionnaire to be used when auditing companies who record their financial data with the use of micro- and minicomputer systems. The questionnaire was designed in a manner which allowed the audit of the system to be done by inquiry, observation, and substantive and compliance testing.

General Controls

The first section of the questionnaire was concerned with physical and procedural controls, contingency plans, and the origination, error handling, and retention of source documents. Physical controls include protection of the hardware and software from fire, smoke, water, personnel and visitors, whereas procedural controls stress the need for backup files and a safe storage location for them. A computer system cannot be adequately protected without the presence of these two controls. In addition, a contingency plan is needed for systems of all sizes. There is always a chance that a computer system will fail from power outages, mechanical malfunctions or acts of God. If the computer system is a vital component in the overall operation of the business, a backup facility needs to be available immediately, should the main system fail. Not only must a backup facility be available, but it must also be tested periodically to ensure that it functions properly and meets the needs of the business.

One of the security areas that small businesses seemed to lack was that of source document control, including source document origination, authorization, error handling and retention. Generally, most of the companies visited kept adequate records for normal day to day transactions; however, it is surprising how often there was inadequate or non-existent documentation on the infrequent and unusual transactions which involved control bypassing and the entering of manual transactions. These are crucial types of transactions and they need to be documented extensively in order to prove their legitimacy.

Data Collection and Processing

When auditing a computer system, it is important to know the manner in which data is collected and processed. These collection and processing procedures are referred to as batch and on-line. Batch processing is the accumulation of transactions which are then processed in a "batch" at some future point in time. On-line information processing allows users direct access to data and programs through the use of terminals connected to the computer. On-line systems are classified into three groups which distinguish between the type of data entry and the time of file updating:

- -single transaction input and immediate master file update;
- -single transaction input and delayed master file update;
- -batch transaction input and delayed master file update.

In addition to batch and on-line collection and processing, a business could have a hybrid system in which certain types of transactions are entered directly into the system as they occur.

Batch Operations

The second part of the questionnaire addressed computer systems employing batch collection and processing. The questionnaire was concerned with data input, data processing and data processing controls which the client had implemented and was using in the computer system.

The data input controls questioned the operations used in data conversion, entry, validation, editing and error handling. For example, such questions as the following were asked:

a) Does the data processing department keep a log or record showing receipt of user department source documents and their actual disposition?
b) Are all personnel prevented from overriding or bypassing data validation and editing problems?
c) Are debit- and credit-type entries used to correct transactions?

It is extremely important that data entered into the system is valid and correct; therefore, proper controls at this point

will help ensure the effectiveness of processing controls and output controls.

Data processing controls are designed to provide reasonable assurance that all transactions have been processed and the application processing has been performed correctly. According to the Computer Services Guidelines put out by the American Institute of Certified Public Accountants (AICPA), types of errors that may occur in processing, other than erroneous data not detected by the input controls, include:

-the use of an incorrect version of the program;
-the use of a wrong file or record in processing;
-the use of an incorrect value in internal tables;
-a wrong default value;
-input of incorrect program parameters;
-precision and rounding errors;
-incorrect or incomplete processing logic.

By using range tests, sequence tests, class identification, crossfooting tests, control totals, and error correction screening, most of these errors can be prevented.

Data output controls should provide reasonable assurance that output is complete and correct and that it is distributed to authorized users only. Some of the questions used in this area were as follows:

a) Does the data processing (DP) department reconcile output batch totals and record counts with input batch totals and record counts before releasing any reports?
b) Does the DP department keep a log of all output produced?
c) Does the DP department keep a control log of output products containing errors?
d) Have record and document retention periods been established?

On-Line Operations

Part Three of the questionnaire was concerned with on-line operations. An on-line environment can reduce the risk of lost transaction documents if entry is at or near the point of origination; however, other risks are increased, such as:

-the opportunity for entry of unauthorized transactions through terminals located throughout the organization;
-the opportunity for unauthorized modification of transactions and/or balances already on computer files and unauthorized modification of computer programs through uncontrolled terminals;
-the opportunity for unauthorized access to data and programs through unauthorized terminals;
-the chance of transactions or files being lost if service is interrupted by power failures, etc.

This section of the questionnaire was organized in the same manner as the "Batch Operations" section; however, a different set of questions was designed due to different controls needed in a system of this type.

In an on-line environment the input controls must be concerned with who is accessing the system and whether or not they have the authority to do so. Through the use of passwords and codes data output controls are established as a final check on the accuracy and completeness of the processed data. Output controls in an on-line system and quite similar to output controls in a batch system, although additional controls are needed in an on-line system. These controls include:

a) Terminal devices need to be logged off at the end of the day so that the terminal will be disconnected from the computer based system.
b) Output devices should be located in secure facilities at all times to prevent unauthorized use.
c) The content of the message directed to the terminal or output device should be validated before being displayed or written.

In addition to the sections of the questionnaire discussed above, a fourth section was included to address the specific controls needed by an electronic data processing service bureau.

Questions such as the following were asked:

a) What types of services does the center provide its clients; i.e., processing, data preparation, program development, program maintenance/system analysis, or some other function?
b) Who is the legal owner of the software used in the processing applications?
c) What specific industry applications are currently being used and what applications are proposed for the future?

Large or small, service bureaus provide a function that their clients rely upon, and they must implement controls that will ensure the integrity of the data and timely processing of information submitted by clients.

Further Research

The topics of security and control include a number of areas that warrant further study. Many new devices are now on the market which will increase the security of computer systems and the data stored in those systems. A very effective security measure for highly sensitive data is available through the implementation of encryption/decryption techniques. With the increasing amount of data being sent over telecommunication lines through the use of modems, encryption/decryption schemes can further enhance security. Another area for future study would be controls on program changes initiated by an employee in a small to medium-sized company. Often these types of companies have one, or possibly two, people employed in the EDP department. This person is usually in charge of all EDP functions including program changes. This situation may cause serious security and control problems due to the inability of these companies to implement "separation of duties" cost effectively.

Conclusion

Controls are needed in small businesses that employ

Continued from page 5

micro- and minicomputers as much as they are needed in large companies with large mainframe systems. The integrity of a micro- or minicomputer system is just as vital in a small business since the data and the services they provide are important to the community they serve. The questionnaire discussed in this article addresses the peculiarities found in micro- and minicomputer systems and enables businesses to easily implement internal controls that are feasible and cost effective. The questionnaire is designed to highlight weaknesses in the existing EDP internal control system and to demonstrate that small businesses with small computer systems can implement effective, efficient and reliable controls despite the possible lack of "separation of duties" among personnel.

RETAIL SALES TAX PERFORMANCE IN FIRST HALF OF 1985

Trend and Real Growth

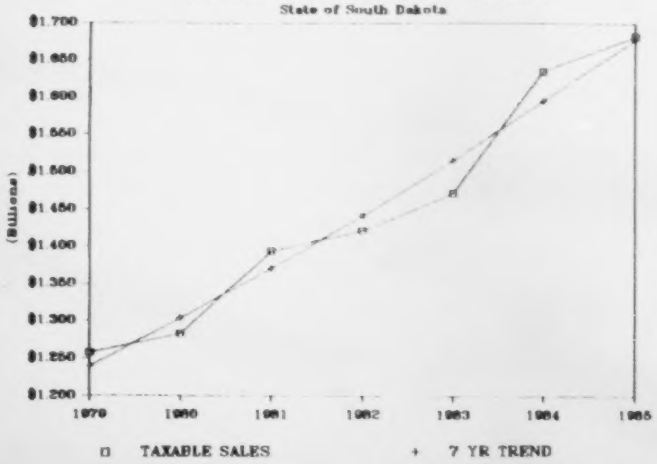
Randall M. Stuefen

The state's retail sales tax performance for the first half of 1985 is down from last year's growth rate but remains above the trend. Retailers in the state had increased sales that averaged 2.9 percent for the first half of this year, well below the 11 percent growth rate recorded in the first half of 1984. However, the outstanding performance of 1984 made the first half of this year appear weaker than it was. To compare the performance of the first half of this year relative to the first half of last year and all previous years a trend line is used. (See Graph 1) The trend line is the near straight line drawn through the more jagged line. The trend line increases at a constant rate of 5.2 percent a year and is the average increase in taxable sales in the state for the seven year period shown. The more jagged line connects the actual taxable sales recorded for the first six months in each of the seven years. Viewed in this manner, one can see that the outstanding performance of 1984 causes the year-to-year comparison of 2.9 percent for the first half of 1985 to understate this year's performance relative to that of the six preceding years. Two points should be identified regarding the data used. Data prior to 1979 is not used because the sales tax was significantly broadened in that year and inclusion of data prior to 1979 would bias the trend downward. It must also be noted that the data does not include use tax, sales out of state or tax on utilities. The first two exclusions were made because they reflect little upon the state's retail business activity and the later was excluded because it does not reflect main street business activity.

GRAPH 1

TREND IN TAXABLE SALES

State of South Dakota



Such trend analysis can be applied to a number of segments of the state. Geographic, demographic and industry segmentations are three techniques that may be used. Recent articles in the Review that were written around the idea of a "Dual Economy" in South Dakota made use of demographic and geographic segmentation. Demographic in that the ten largest cities were identified based on population. Geographic in that the counties of the ten largest cities were chosen for discussion purposes. These ten counties contained approximately one-half of South Dakota's population in 1980. Since the original articles on the "Dual Economy" in this publication, the ten largest cities have been divided into the counties of the top two cities and the counties of the next eight cities in the **Data Supplement**. Minnehaha and Pennington are of course the "top two" and Brown, Codington, Davison, Yankton, Brookings, Hughes, Beadle and Clay are the "next eight". Counties not in the top two or the next eight are referenced as "other counties". These divisions are arbitrary. Many segmentations of the data are possible and certainly better segmentation could be made with more sophisticated models using more than the two variables of population and county boundaries.

Segmentation is used to reduce the amount of data and thereby allow for easier discussion of less than perfect information. Segmentation is the averaging of data, in this case the cities' and counties' individual taxable sales trends. Discussion is made easier through the averaging within the segments but one must realize that the technique of averaging means that the identification of the exceptions is lost. Not all counties within any of the defined segments perform precisely the same.

The trends for the three segments defined above are presented in Graph 2. The top trend line represents the seven year average performance of the top two counties. The middle line represents the performance of the other county grouping and the bottom trend line is that of the counties of the next eight cities. The top two counties have an average growth rate of 7.3 percent. Over this same time

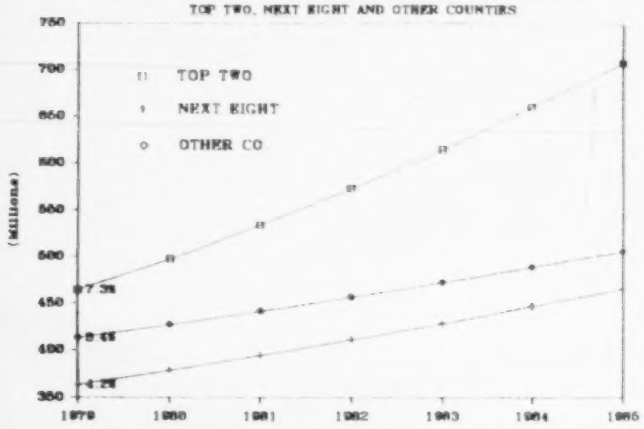
About the author: Randall Stuefen is Associate Director of the Business Research Bureau, School of Business, The University of South Dakota, Vermillion, South Dakota.

span the growth for the next eight and other counties has been 4.2 percent and 3.4 percent, respectively. While the next eight counties have an average growth rate that is larger than the other county group, it would appear that the next eight more closely resemble the other counties of the state than they do the top two.

GRAPH 2

TREND LINES FOR TAXABLE SALES

TOP TWO, NEXT EIGHT AND OTHER COUNTIES

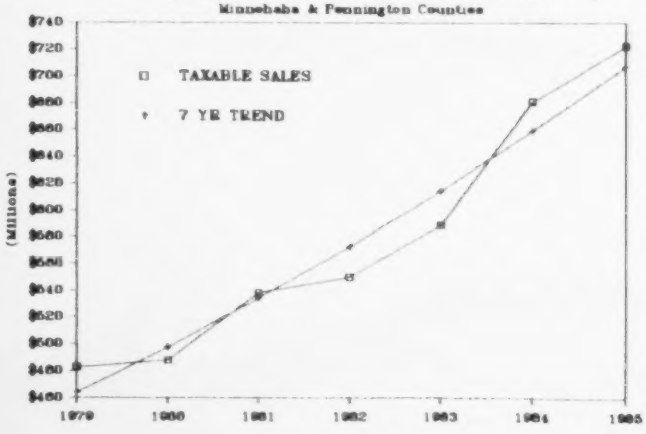


In graphs 3, 4 and 5, the trend lines of graph 2 are incorporated with the actual taxable sales amounts for each of the years from 1979 through 1985. Recall, that all data

GRAPH 3

TREND IN TAXABLE SALES

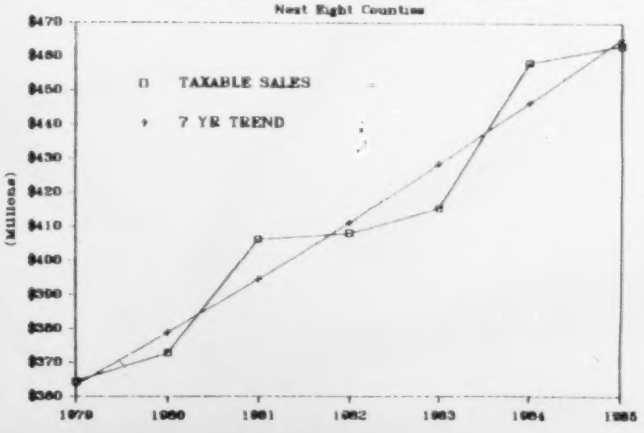
Minnehaha & Pennington Counties



GRAPH 4

TREND IN TAXABLE SALES

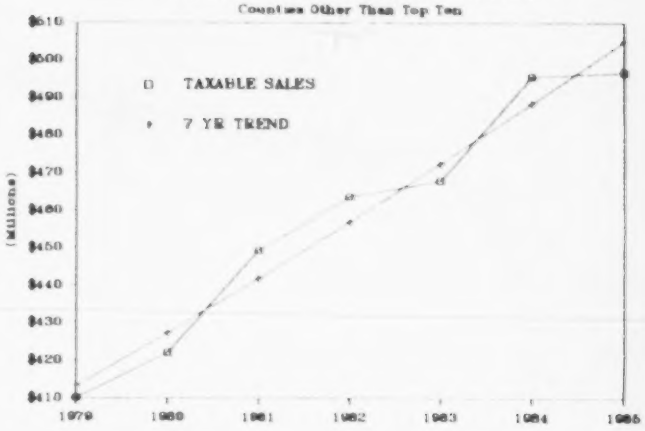
Next Eight Counties



GRAPH 5

TREND IN TAXABLE SALES

Counties Other Than Top Ten



presented and the trend lines are only for the first six months of each year.

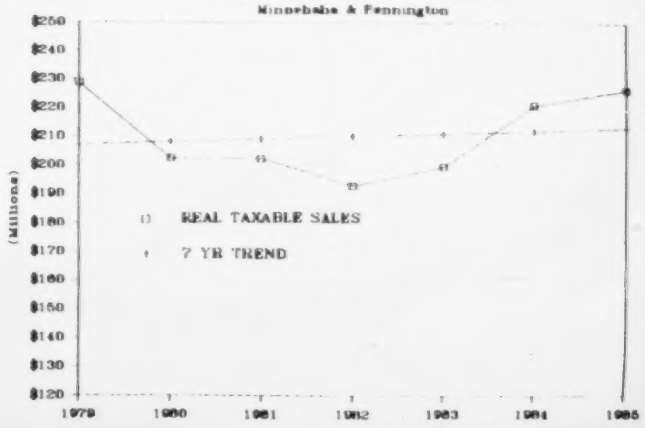
Note that the general performance patterns of the next eight and top two are quite similar. 1979 is above the trend line. 1980 is below. 1981 is above and both 1982 and 1983 are below. 1984 is well above. 1985 is the exception to this synchronization of taxable sales performance. Although their trends are considerably different in terms of percentage change, the next eight counties appear to respond to changes in economic conditions relative to their trend lines in approximately the same manner as the top two counties. This similarity lends support to the idea presented in previous articles that the more urban economies reflect national or general economic conditions to a greater degree than the more agriculturally dependent counties. The similarity is absent in the "other county" graph, Graph 5.

Inflation is a factor that clouds the issue of increased or decreased goods and services being delivered when the taxable sales are in current dollars. If a nominal taxable sales increase is not greater than the rate of inflation, even though nominal sales are up, the delivery of actual units of goods and services will be down. The real taxable sales for each of our three segments of the state are presented graphically in the three graphs that follow. The consumer price index was used to deflate the nominal dollar amounts in each of the seven years to 1967 dollars. A nearly straight trend line is included for the seven years observed.

GRAPH 6

REAL TAXABLE SALES

Minnehaha & Pennington



Continued on page 12

TAXABLE SALES COMPARISONS BY POPULATION SIZE
(Population according to 1980 Census figures)

	Total Population	July-Dec. 1983	July-Dec. 1984	% Change	Jan.-June 1984	Jan.-June 1985	% Change	FY84 - FY85 % Change
Sioux Falls City	81,343	411,541	453,738	10.3	391,247	413,506	5.7	8.0
Rapid City	46,492	283,052	295,290	4.3	237,660	254,391	7.0	5.6
Aberdeen	25,956	113,303	118,976	5.0	102,613	107,223	4.5	4.8
Watertown	15,649	75,304	78,427	4.1	70,672	71,240	0.8	2.5
Brookings	14,951	51,018	53,358	4.6	47,955	47,379	-1.2	1.8
Mitchell	13,916	64,508	66,228	2.7	55,941	56,749	1.4	2.1
Huron	13,000	47,684	48,769	2.3	43,855	43,692	-0.4	1.0
Yankton	12,011	52,562	53,564	1.9	49,630	49,764	0.3	1.1
Pierre	11,973	46,717	49,041	5.0	43,314	45,680	5.5	5.2
Vermillion	10,136	20,157	20,198	0.2	18,959	18,272	-3.6	-1.7
Madison	6,210	20,235	23,978	18.5	18,232	19,955	9.5	14.2
Spearfish	5,251	21,594	24,205	12.1	18,684	19,757	5.7	9.1
Sturgis	5,184	16,534	18,107	9.5	14,321	15,103	5.5	7.6
Hot Springs	4,742	10,891	12,128	11.4	9,549	9,898	3.7	7.8
Belle Fourche	4,692	15,983	16,757	4.8	13,802	13,632	-1.2	2.0
Lead	4,330	13,750	11,374	-17.3	11,621	9,944	-14.4	-16.0
Mobridge	4,174	14,562	14,523	-0.3	13,272	13,045	-1.7	-1.0
Milbank	4,120	17,812	16,699	-6.2	16,333	16,120	-1.3	-3.9
Winner	3,472	18,219	18,131	-0.5	15,297	15,435	0.9	0.1
Box Elder	3,186	898	1,130	25.8	871	1,322	51.8	38.6
Redfield	3,027	10,517	11,090	5.4	9,709	9,930	2.3	3.9
Canton	2,886	5,954	6,736	13.1	5,614	5,536	-1.4	6.1
Sisseton	2,789	8,447	9,075	7.4	7,792	8,100	4.0	5.8
Brandon	2,589	3,529	3,389	-4.0	3,355	2,967	-11.6	-7.7
Webster	2,417	10,241	10,089	-1.5	9,037	8,829	-2.3	-1.9
Dell Rapids	2,389	4,956	5,210	5.1	4,443	4,423	-0.5	2.5
Chamberlain	2,258	10,439	10,999	5.4	9,542	9,525	-0.2	2.7
Flandreau	2,114	5,374	5,377	0.1	5,047	4,777	-5.3	-2.6
Deadwood	2,035	9,944	10,438	5.0	8,496	8,368	-1.5	2.0
North Sioux City	1,992	1,581	1,783	12.8	1,177	1,137	-3.4	5.9
Miller	1,931	8,639	8,808	2.0	7,823	7,708	-1.5	0.3
Lemmon	1,871	8,231	8,017	-2.6	7,041	7,137	1.4	-0.8
Beresford	1,865	6,291	6,059	-3.7	6,244	5,287	-15.3	-9.5
Custer	1,830	13,444	16,013	19.1	10,235	10,669	4.2	12.7
Lennox	1,827	3,463	3,983	15.0	3,548	3,372	-5.0	4.9
Fort Pierre	1,789	6,294	6,574	4.4	5,385	5,822	8.1	6.1
Elk Point	1,661	3,185	3,056	-4.1	3,102	2,774	-10.6	-7.3
Gettysburg	1,623	6,416	6,335	-1.3	5,127	5,250	2.4	0.4
Britton	1,590	5,281	5,716	8.2	4,727	4,890	3.4	6.0
Parkston	1,545	5,995	5,654	-5.7	4,972	4,626	-7.0	-6.3
Gregory	1,503	5,857	6,012	2.6	5,768	4,910	-14.9	-6.0
Salem	1,486	4,926	4,908	0.4	4,510	4,894	8.5	3.9
Edgemont	1,468	2,667	2,804	5.1	2,388	2,353	-1.5	2.0
Freeman	1,462	6,592	6,334	-3.9	5,864	5,531	-5.7	-4.7
Wagner	1,453	5,288	5,293	0.1	4,641	4,673	0.7	0.4
Springfield	1,377	1,988	1,417	-28.7	1,403	1,295	-7.7	-20.0
Eureka	1,360	3,894	3,876	-0.5	3,405	3,514	3.2	1.2
Clark	1,351	4,750	4,926	3.7	3,978	4,053	1.9	2.9
Platte	1,334	7,241	7,586	4.8	6,386	6,370	-0.3	2.4
Clear Lake	1,310	5,311	5,566	4.8	5,124	5,255	2.6	3.7
Tyndall	1,253	3,126	3,117	-0.3	3,124	2,885	-7.7	-4.0
De Smet	1,237	4,676	4,490	-4.0	4,077	4,059	-0.4	-2.3
Groton	1,230	3,349	3,398	1.5	3,160	3,122	-1.2	0.2
Volga	1,221	1,585	1,375	-13.2	1,435	1,540	7.3	-3.5
Hartford	1,207	1,117	1,310	17.3	970	1,068	10.1	13.9
Wessington Springs	1,203	3,607	3,622	0.4	3,301	3,351	1.5	0.9
Howard	1,169	3,923	3,665	-6.6	3,262	3,200	-1.9	-4.5
Ipswich	1,153	3,774	4,068	7.8	3,622	3,593	-0.8	3.6
Philip	1,088	5,802	5,768	-0.6	5,109	5,030	-1.5	-1.0
Highmore	1,055	4,121	4,180	1.4	3,806	3,734	-1.9	-0.2
Lake Andes	1,029	2,189	2,099	-4.1	1,981	2,082	5.1	0.3
Scotland	1,022	2,141	2,082	-2.8	2,019	1,826	-9.6	-6.1
Martin	1,018	5,515	5,436	-1.4	5,149	5,086	-1.2	-1.3

Population		July-Dec. 1983-1984 Ave. % Chng.	Jan.-June 1984-1985 Ave. % Chng.	FY84-FY85 Ave. % Chng.
100,000 -	40,000	7.3	6.4	6.8
39,999 -	10,000	3.2	0.9	2.1
9,999 -	3,000	5.7	5.5	5.7
2,999 -	2,000	3.8	2.4	0.9
1,999 -	1,500	3.9	-7.2	0.5
1,499 -	1,000	-0.9	0.0	0.6

GROSS SALES & USE TAXABLE ITEMS
Counties and Selected Cities in South Dakota
Jan.-June 1984 and 1985
(In $000's)

REGION I

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Brookings	118,606	123,437	4.1	Gary	710	614	-13.5	Kingsbury	29,983	29,651	-1.1
Brookings	108,214	111,993	6.4	Toronto	4,237	3,411	-19.5	Arlington	8,641	8,741	1.2
Elkton	3,363	2,601	-22.7	Grant	40,775	40,247	-1.3	De Smet	8,204	7,097	-13.5
Volga	3,483	3,488	5.9	Big Stone C.	1,588	1,859	17.1	Lake Preston	4,028	4,320	7.2
Clark	14,383	12,382	-13.9	Milbank	34,508	33,605	-2.6	Lake	54,003	54,238	0.4
Clark	9,856	8,518	-13.6	Hamlin	16,720	17,365	3.9	Madison	50,315	48,971	-2.7
Codington	153,265	146,821	-4.2	Bryant	3,158	3,372	6.8	Miner	13,063	15,600	19.4
Watertown	146,171	141,397	-3.3	Castlewood	2,689	2,595	-3.5	Howard	9,809	12,257	25.0
Deuel	13,979	14,205	1.6	Estelline	3,079	3,127	1.6	Moody	32,536	30,687	-5.7
Clear Lake	8,196	9,536	16.3	Hayti	2,872	2,651	-7.7	Colman	15,636	14,878	-4.8
								Flandreau	13,191	13,091	-14.1
								TOTAL	487,313	484,634	-0.5

REGION II

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Clay	37,899	33,802	-10.8	Minnehaha	991,985	1002,282	1.0	Centerville	3,695	4,078	10.4
Vermillion	33,102	28,962	-12.5	Baltic	7,196	6,563	-8.8	Marion	12,188	14,778	21.3
Lincoln	58,924	51,539	-12.5	Brandon	4,404	4,093	-7.1	Parker	8,705	9,356	7.5
Canton	28,581	27,650	-3.3	Colton	6,017	5,053	-16.0	Viborg	7,497	6,072	-19.0
Lennox	7,341	5,781	-21.3	Dell Rapids	12,868	11,789	-8.4	Union	52,833	52,360	-0.9
McCook	27,966	27,764	-0.7	Garretson	7,251	7,211	-0.6	Alcester	9,488	11,054	16.5
Bridgewater	4,817	4,329	-10.1	Hartford	5,267	4,781	-9.2	Beresford	16,384	13,031	-20.5
Canistota	3,033	2,917	-3.8	Sioux Falls	919,541	939,290	2.1	Elk Point	9,069	8,765	-3.4
Salem	14,362	15,866	10.5	Turner	38,250	43,409	13.5	TOTAL	1207,857	1211,156	0.3

REGION III

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Aurora	12,531	11,662	-6.9	Lake Andes	3,909	3,917	0.2	Emery	2,772	2,864	3.3
Plankinton	4,847	4,962	2.4	Platte	15,896	15,610	-1.8	Hutchinson	45,322	42,493	-6.2
Bon Homme	29,132	27,210	-6.6	Wagner	11,439	10,396	-9.0	Freeman	17,724	18,391	3.8
Avon	5,203	6,963	33.8	Davison	163,688	161,051	-1.6	Menno	4,926	5,289	7.4
Scotland	5,353	4,302	-15.9	Mitchell	134,981	135,803	-0.8	Parkston	15,827	12,799	-19.1
Springfield	4,117	4,289	4.2	Douglas	17,017	16,319	-2.9	Tripp	3,637	3,652	0.4
Tabor	2,910	2,870	-1.4	Armour	5,760	6,027	4.6	Jerauld	18,184	17,751	-2.4
Tyndall	11,426	8,459	-26.0	Corsica	9,538	8,820	-7.5	Wess. Sprgs.	14,448	13,649	-5.5
Brule	33,785	34,738	2.8	Gregory	26,702	26,303	-1.5	Sanborn	10,116	9,661	-4.5
Chamberlain	26,461	27,986	5.8	Burke	4,917	4,843	-1.5	Woonsocket	7,549	7,668	1.6
Kimball	6,393	5,700	-10.8	Gregory	14,090	10,566	-25.0	Yankton	140,717	136,746	2.8
Charles Mix	35,224	34,341	-2.5	Hanson	13,407	11,492	-14.3	Yankton	132,756	129,107	-2.6
Geddes	2,500	2,946	17.8	Alexandria	7,891	6,919	-12.3	TOTAL	545,824	529,989	-2.9

REGION IV

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Beadle	94,531	97,726	3.4	Bowdle	4,814	4,247	-11.8	Leola	3,219	3,029	-5.9
Huron	84,483	87,009	3.0	Hosmer	1,282	1,272	-0.8	Marshall	20,405	23,550	15.4
Brown	249,352	287,141	15.2	Ipswich	11,157	12,027	7.8	Britton	11,816	12,275	3.9
Aberdeen	228,101	264,706	16.0	Roscoe	2,827	2,822	-0.2	Roberts	30,180	29,938	-0.8
Groton	9,343	11,054	18.3	Faulk	9,341	9,721	4.1	Sisseton	13,640	14,220	4.3
Day	31,486	30,449	-3.3	Faulkton	4,590	5,452	18.8	Wilmot	5,428	5,416	-0.2
Bristol	4,025	3,386	-15.9	Hand	19,577	20,168	3.0	Spink	27,258	26,658	-2.2
Waubay	1,859	2,178	17.2	Miller	17,120	17,381	1.5	Doland	1,433	1,544	7.7
Webster	21,084	20,391	-3.3	McPherson	11,936	11,811	-1.0	Redfield	18,698	18,940	1.3
Edmunds	22,043	22,426	1.7	Eureka	8,279	8,311	0.4	TOTAL	516,109	559,590	8.4

REGION V

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Buffalo	517	693	34.0	Blunt	3,046	3,049	0.1	Stanley	9,179	9,272	1.0
Campbell	6,663	7,509	12.7	Pierre	84,578	80,522	-4.8	Ft. Pierre	9,079	9,176	1.1
Mcpherson	4,231	4,859	14.8	Hyde	11,490	10,265	-10.7	Sully	8,033	7,735	-3.7
Pollock	1,919	2,137	11.4	Highmore	11,285	10,045	-11.0	Onida	7,170	7,093	-1.1
Corson	6,976	10,927	56.6	Jones	1,413	10,112	-2.9	Tripp	35,761	37,078	3.7
McIntosh	1,278	1,334	4.4	Murdo	9,387	9,528	1.7	Winner	33,418	35,480	6.2
McLaughlin	3,916	7,854	100.6	Lyman	9,866	10,130	2.7	Todd	8,583	7,589	11.6
Dewey	12,755	12,653	-0.8	Presho	2,595	2,494	3.9	Mission	7,354	6,464	12.1
Eagle Butte	6,927	7,313	5.6	Mellette	2,741	2,658	3.0	Walworth	38,060	37,715	0.9
Isabel	2,004	2,038	1.7	White River	1,899	1,895	0.2	Mobridge	23,151	23,334	0.8
Timber Lake	2,765	2,448	11.5	Perkins	15,947	16,948	0.6	Selby	10,931	10,346	5.4
Haakon	18,676	17,579	5.9	Lemmon	12,947	12,656	2.2	Ziebach	2,345	2,151	8.3
Philip	17,291	16,413	5.1	Potter	21,640	20,309	6.2	Dupree	8,245	8,038	2.4
Hughes	88,711	84,798	4.4	Gettysburg	15,096	17,580	-10.0				
				Haven	4,682	4,227	-9.7	TOTAL	308,354	305,222	1.0

REGION VI

	Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change		Jan.-June 1984	Jan.-June 1985	% Change
Bennett	14,208	13,982	-1.6	Harding	2,902	3,199	10.2	Meade	45,272	46,075	1.8
Martin	14,059	13,847	-1.5	Buffalo	2,460	2,827	14.9	Faith	4,633	4,511	-2.6
Butte	34,036	32,843	-3.5	Jackson	9,671	8,416	-13.0	Sturgis	32,950	32,927	-0.1
Belle Fche.	27,738	26,495	-4.5	Padoka	8,658	7,212	-16.5	Pennington	596,420	606,512	1.7
Newell	4,514	4,541	0.6	Lawrence	133,047	126,326	5.1	Rapid City	555,455	564,456	1.6
Custer	18,425	18,916	2.7	Deadwood	23,362	22,389	4.2	Wall	13,820	15,606	12.9
Custer	16,591	17,117	3.2	Lead	69,363	62,144	10.4	Shannon	3,140	4,033	28.3
Fall River	22,951	22,347	-2.6	Spearfish	28,716	29,587	3.0	Pine Ridge	1,240	1,522	22.6
Edgemont	5,801	5,771	-0.5	Whitewood	4,800	5,094	6.1	Washabaugh	227	255	12.4
Hot Spgs.	14,465	14,932	3.2					TOTAL	880,647	882,965	0.3
								STATE TOTAL	3946,103	3973,425	0.7

SOUTH DAKOTA INCOME & EMPLOYMENT

TOTAL PERSONAL INCOME
United States, Plains Region and States
First Quarter 1984-First Quarter 1985
(Millions of Dollars, Seasonally Adjusted at Annual Rates)

	1984				1985	% Change 1st Qtr. 1985
	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	1st Qtr. 1984
United States	2,906,532	2,970,393	3,039,942	3,082,902	3,129,096	7.7
Plains States	215,877	215,729	221,750	223,056	224,422	4.0
Iowa	34,933	34,574	35,315	35,660	35,776	2.4
Kansas	32,001	31,962	32,857	32,666	32,683	2.1
Minnesota	53,731	53,995	55,554	56,057	56,671	5.4
Missouri	58,917	60,103	61,527	62,256	62,774	6.5
Nebraska	19,843	19,112	19,800	19,929	20,175	1.7
North Dakota	8,855	8,962	8,729	8,500	8,484	-4.2
South Dakota	7,593	7,522	7,975	7,988	7,899	4.0

Note: Detail may not add to totals because of rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis

SOUTH DAKOTA NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
June 1984 and June 1985
(In Thousands)

	June 1984	June 1985	% Change	Average Weekly Hours June 1984	Average Weekly Hours June 1985	Average Hourly Earnings June 1984	Average Hourly Earnings June 1985
Total Employment	255.5	251.3	-1.6				
Mining	2.7	2.5	-7.4				
Construction	10.0	10.5	5.0				
Manufacturing	29.3	26.2	-10.6	42.4	43.2	$7.03	$7.33
Durable Goods	16.2	13.5	-16.7	41.8	41.8	6.88	7.23
Fabricated Metals & Mach.	10.5	7.9	-24.8				
Nondurable Goods	13.1	12.7	-3.1	43.1	44.8	7.21	7.42
Food & Kindred Products	7.7	7.5	-2.6				
Paper, Printing & Publishing	2.6	2.6	0.0				
Transportation & Pub. Utilities	11.9	12.4	4.2				
Transportation	6.8	7.3	7.4				
Communication & Pub. Utilities	5.1	5.1	0.0				
Wholesale & Retail Trade	66.9	67.1	0.3				
Wholesale Trade	16.8	16.3	-3.0				
Durable Goods	7.3	7.1	-2.7				
Nondurable Goods	9.5	9.2	-3.2				
Retail Trade	50.1	50.8	1.4				
Finance, Insurance & Real Estate	13.2	13.7	3.8				
Services	60.1	59.8	-0.5				
Hotels, Amuse., Pers. & Business	16.9	16.4	-3.0				
Medical & Health	22.6	22.4	-0.9				
Educational, Membership & Social	17.2	17.2	0.0				
Government	61.5	59.0	-4.1				
Federal	10.6	10.9	2.8				
State	16.4	16.0	-2.4				
State Education	6.0	5.7	-5.0				
Local	34.5	32.1	-7.0				
Local Education	17.9	16.7	-6.7				

Source: South Dakota Department of Labor, "Labor Bulletin".

SOUTH DAKOTA AGRICULTURAL INDICATORS

SOUTH DAKOTA CROP PRODUCTION
SUMMARY, 1984 and 1985
(As of Aug. 1, 1985)
(000's Bushels)

	Production	
	1984	1985
All Corn	--	--
All Sorghum	--	--
Oats	86,800	91,000
Barley	30,345	33,075
Soybeans	31,280	35,280
Flaxseed	1,494	1,283
Durum Wheat	3,128	2,465
Other Spring Wheat	61,710	60,760
All Sunflowers 1/	633,480	2/
All Hay 3/	8,083	5,470

1/ Yield in pounds. Production is in 1,000 pounds.
2/ The first production forecast will be released in October.
3/ Yield and production in tons.

Source: South Dakota Crop & Livestock Reporter

PRICES RECEIVED BY FARMERS FOR COMMODITIES SOLD - SOUTH DAKOTA
June 1984 and June 1985

Commodity and Unit		Base Period Price 1910-1914 Average	June 1984	June 1985	June 1985 Price as % of Base	June 1985 Price Above or Below June 1984
Wheat	Bu.	.85	3.78	3.42	402	-9.5
Corn	Bu.	.51	3.23	2.54	498	-21.4
Oats	Bu.	.35	1.73	1.32	377	-23.7
Barley	Bu.	.59	2.51	1.94	329	-22.7
Flaxseed	Bu.	1.68	7.00	6.49	386	-7.3
Milk, Whsl.	Cwt.	1.82	*	*	*	*
Eggs	Doz.	.196	*	*	*	*
Cattle	Cwt.	5.24	55.70	52.80	1008	-5.2
Calves	Cwt.	6.08	65.40	67.80	1115	3.7
Hogs	Cwt.	7.07	48.00	43.40	614	-9.6
Sheep	Cwt.	4.24	13.30	18.30	432	37.6
Lambs	Cwt.	5.66	59.70	70.40	1244	17.9
Wool	Lb.	.178	.78	.65	365	-16.7

*Season average price only.
Source: South Dakota Crop & Livestock Reporter

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS

(% Change Like Period Previous Yr.)

City	Taxable Sales¹ Total	Retail	Services	Telephone Services²	Housing Starts³	Postal Indicators⁴	Employment⁵
Aberdeen	4.5	5.7	1.8	1.5	109.4	8.9	-3.5
Belle Fourche	-1.2	2.4	9.4	-0.1	18.6		-3.7
Brookings	-1.2	1.3	5.8		80.7	11.5	-5.0
Canton	1.4	-0.5	-2.7	0.5			-1.6
Chamberlain	-0.2	2.0	-7.8	0.4	11.6		0.5
Deadwood	1.5	2.1	12.2	-0.2			-1.8
DeSmet	-0.4	1.9	13.7	-0.8			-5.5
Elk Point	-10.6	-5.2	17.8	-2.6			-10.7
Hot Springs	-3.7	4.9	4.5	---			-6.2
Huron	0.4	3.9	11.0	-0.1	87.5	3.9	-2.3
Lead	-14.4	-2.5	-9.1	0.6			-1.8
Madison	9.5	2.5	5.2	-6.9	60.9		1.8
Milbank	-1.3	2.8	-6.2	0.6	19.6		-5.9
Mitchell	1.4	-0.4	15.3	0.1	45.5	4.0	-2.9
Mobridge	1.7	1.4	10.3	0.5			4.4
Pierre	5.5	1.2	8.7	1.6	70.5	9.5	1.8
Rapid City	7.0	5.1	7.7	3.6	32.6	5.2	2.4
Sioux Falls	5.7	5.7	14.3	4.5	12.6	24.8	1.4
Spearfish	5.7	4.5	17.0	---	-2.4		-1.8
Sturgis	5.5	8.2	1.4	0.9			3.4
Vermillion	-3.6	5.5	10.6	-4.7			-0.1
Watertown	0.8	0.8	3.2	3.2	48.5	1.3	2.6
Winner	0.9	-0.3	6.1	0.1			-4.0
Yankton	0.3	1.2	4.6	-0.8	-78.4	6.6	-1.3

*Based on County Data

¹Percentage change for January-June 1984 and 1985. Data reported for housing represents the value of housing starts.

²Percentage change for June 1984 and 1985. Telephone data are for the number of access lines in service.

³Percentage change for the second quarter of 1984 and 1985. Included in postal indicators are: postage stock sales, postage meters for customers, meter imprint postage (3rd class regular), and second class postage.

CONSUMER PRICE INDEX

United States
Jan. - June 1985
(1967=100)

Item	Jan.	Feb.	March	April	May	June	Unadj. % Change Jan.-June
All Items	316.1	317.4	318.8	320.1	321.7	322.2	2.0
Food & Beverages	299.3	301.4	301.6	301.6	301.0	301.4	0.7
Food	307.2	309.5	309.7	309.6	308.9	309.2	0.6
Alcoholic beverages	224.3	225.8	226.5	226.7	227.7	227.8	1.6
Housing	342.6	343.6	344.7	345.9	348.5	350.4	2.5
Shelter	371.2	372.3	374.1	376.9	379.5	381.0	2.6
Renters' Costs	111.8	112.4	112.9	113.5	114.5	115.1	3.0
Homeowners' Costs	110.0	110.7	110.8	111.3	112.4	112.8	2.5
Fuel & Other Utilities	387.2	386.5	388.2	388.7	395.0	399.4	3.2
Fuel	481.2	480.8	482.2	483.0	490.0	497.7	3.4
Fuel oil, coal & btld. gas	621.6	623.4	620.8	625.5	620.8	612.0	-1.5
Gas (piped) & electricity	444.1	443.2	445.5	445.9	454.7	465.6	4.8
Other util. & Pub. Services	225.3	224.3	236.3	236.4	236.8	241.1	2.5
Household furnishing	244.2	246.2	246.9	247.9	247.6	247.1	1.2
Apparel & upkeep	199.8	201.8	205.3	205.9	205.7	204.6	2.4
Transportation	314.7	314.5	316.7	320.0	321.4	321.8	2.3
Private transportation	309.1	308.7	311.0	314.6	316.0	316.7	2.5
Public transportation	394.5	394.4	397.7	398.0	398.4	399.3	1.2
Medical care	391.1	397.8	396.5	398.0	399.5	401.7	2.7
Entertainment	261.0	261.3	262.2	263.3	263.6	264.8	1.5
Other goods and services	319.1	320.5	321.1	321.8	322.3	323.0	1.2

*Consumer Price Index for all Urban Consumers

Source: Bureau of Labor Statistics, U.S. Dept. of Labor

Address Correction Requested

SOUTH DAKOTA
Business Review

BUSINESS RESEARCH BUREAU
SCHOOL OF BUSINESS - USD
414 E. CLARK STREET
VERMILLION, SOUTH DAKOTA 57069

Bulk Rate
Non-Profit Organ.
U.S. Postage
Vermillion, SD 57069
Permit No. 14

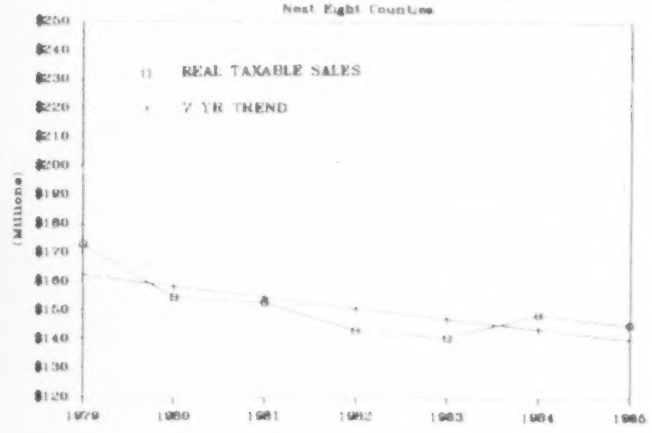
Congressional Information Service
Attn: Cheryl Waldman 01
Dept. SRI
4520 East West Hwy
Bethesda, MD 20814-0000

Published by Business Research Bureau, The University of South Dakota

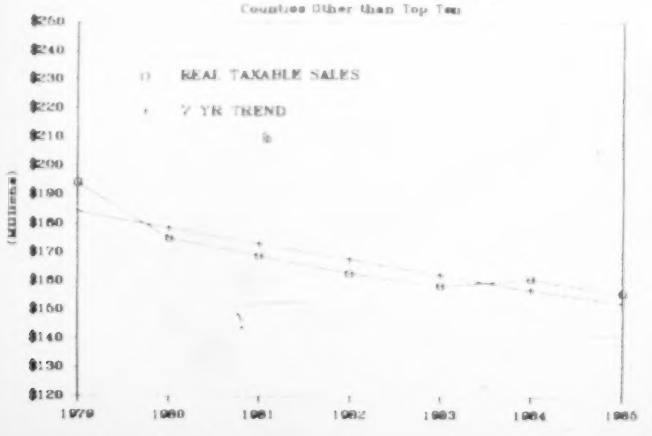
Continued from page 7

The trends for the real taxable sales are + 0.5%, – 2.4% and – 3.2% for the top two, the next eight and the other counties, respectively. Only the top two counties, Minnehaha and Pennington, have an average growth trend in actual goods and services delivered during the 7 year period observed. As was the case in the nominal trend, the real taxable sales trends of the next eight and the counties other than the top ten are more closely aligned. However, the pattern of real taxable sales for the next eight county grouping is more closely aligned with the top two. These consistencies are expected in that the same indexes are used to scale all three segments.

GRAPH 7
REAL TAXABLE SALES
Next Eight Counties



GRAPH 8
REAL TAXABLE SALES
Counties Other than Top Ten



SUMMARY

The first six months of 1984 were rigorous for all three of our defined segments of South Dakota counties. The first six months of 1985 have brought mixed blessings in terms of nominal taxable sales with the top two performing well above the trend line, the next eight very near but below its trend line and the other counties in the state dipping significantly below the seven year trend.

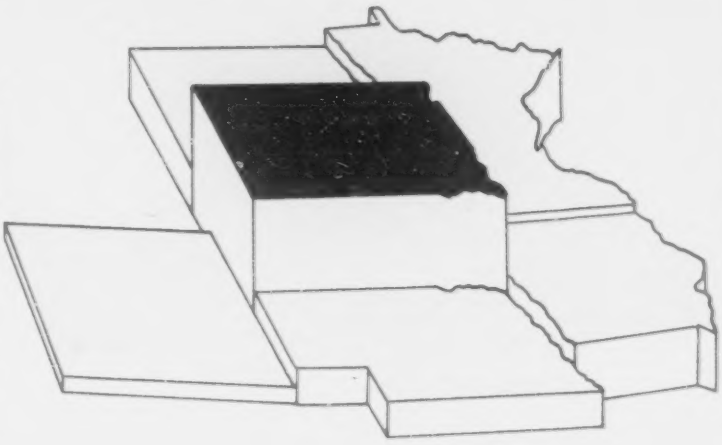
The data tends to support the idea that the next eight counties and the top two share a basic pattern of interaction in the economy. However, the slope of the trend lines suggest that the overall performance of the next eight counties are more closely aligned with the more rural counties than with the top two.

The first half of 1984 was the end of the outstanding performance of the recovery. The growth rate for the state dropped from 11 percent in the first half to 5 percent in the second half. The top two, the next eight and the other countries decreased from 15.6 percent, 10.3 percent and 5.9 percent to 7.3 percent, 3.3 percent and 3.3 percent, respectively. One might therefore expect that year-to-year percentage changes will improve in the last half of 1985. Following year end the trend line performance for the last six months of each year can be reviewed along with 1985's overall performance.

2/12/86 48595-1

SOUTH DAKOTA Business Review

December 1985
Vol. XLIV, No.2



Published by Business Research Bureau, The University of South Dakota

		SOUTH DAKOTA			UNITED STATES		
General Indicators	Latest Quarter	Latest Quarter	Year Ago	Percent Change	Latest Quarter	Year Ago	Percent Change
Personal Income ($ Mil.)	1985-2	8,123	7,530	7.9	3,190,683	2,989,330	6.7
Farm Prop. Income ($ Mil.)	1985-2	786	618	27.2	27,350	23,511	16.3
Non-ag Employment (Thous.)	1985-3	246	247	-0.2	97,936	94,915	3.2
Unemployment Rate (%)	1985-3	4.5	3.6	25.0	7.0	7.3	-4.1
Total Employment (Thous.)	1985-3	344	345	-0.3	109,025	107,894	1.0

Note: All U.S. data seasonally adjusted except for the unemployment rate and total employment. For South Dakota data only personal income and farm proprietors' income are seasonally adjusted.

COMPARABLE WORTH IN THE DOCKS

Some Reflections on Emoluments

Part I

Dennis A. Johnson

A. Introduction

It is widely known that women in the American economy, on average, earn substantially less than men. The ratio of women's to men's median annual earnings has hovered around 59% for half a century, a fact which has given rise to the popular "a woman earns 59 cents for every dollar a man earns" cliche. Such a persistent ratio raises serious questions of equity, and has aroused the curiosity of scholars as well as the attention of politicians.

One explanation of the 59% ratio is that men who are in positions of power have discriminated against women, forcing them to accept lower wage rates than men. This belief, along with similar beliefs with respect to racial disparities in earnings, provided much of the impetus for the Equal Pay Act of 1963, which made it illegal for an employer to pay one person less than another because of race or sex if the two persons were *doing the same work*. This, it was thought, should eliminate the pay disparities which existed due to discrimination. But the pay disparities have presisted; the legislation appears to have had little effect.

Continued on page 4

Dr. Dennis Johnson is Professor of Economics at the University of South Dakota. The author wishes to thank members of the Business School Research Seminar, especially Ralph Brown and Kathy Smith, for helpful suggestions. Any remaining errors are the sole responsibility of the author.

TABLE OF CONTENTS

COMPARABLE WORTH IN THE DOCKS
Some Reflections of Emolument, Part I
Dennis A. Johnson 1

Trend of Business 2

South Dakota Business & Economic Indices 3

Personal Income 1984 7

General Economic Tables 10, 11, 12

SOUTH DAKOTA BUSINESS REVIEW

December 1985

Business Research Bureau
School of Business
The University of South Dakota
605-677-5287
D.E. Clement, Dean, School of Business

Vol.XLIV, No.2

ADVISORY COUNCIL
Robert C. Atkins, John Morrell & Co., Sioux Falls
Ben Blumenthal, Blumenthal's, Rapid City
O. Robert Brancel, Bank West, Pierre
Donald E. Culhane, Culhane's Dairy, Mitchell
Kent E. Edson, Dacotah Bank Holding Company, Aberdeen
Richard C. Erickson, Rushmore Mutual Life Insur. Co., Rapid City
Robert H. Frei, Commerical State Bank, Wagner
Kenneth B. Jones, Yankton Drug Co., Yankton
C.P. Moore, Norwest Bank, Sioux Falls
Allan H. Moum, Larson Manufacturing Co., Brookings
Rudolph A. Nef, Valley Queen Cheese Factory, Inc., Milbank
Jack G. Rentschler, Rentschler's Standard Truck Plaza, Sioux Falls
Jack Riordan, Mountain Company, Inc., Keystone
Walter J. Schramm, Schramm Furniture, Winner
Frank E. Short, CPA, Rapid City

BUSINESS RESEARCH BUREAU
Donald W. Lewis, Director
Randall M. Stuefen, Associate Director
Nancy Nelson, Economic Analyst
Bill Powell, Systems Analyst
DeVee Goss, State Data Center Director
Nancy King, Statistical Clerk
Mary Bartels, Administrative Secretary
Ruby Plate, Data Base Administrator
Don Greenfield, SBDC Director
Dick Barta, BIA Program Director
Anne Shank-Volk, SBDC Area Director
John Huminski, SD international Export Director
Marie Tyburec, Staff Assistant
Tasha Tupper, Intern Editor

The opinions expressed by our contributors may not be those of the Business Research Bureau, the School of Business, or the University of South Dakta. **The South Dakota Business Review** attempts to stimulate and inform but not to convert readers to any particular view point.

Any material in the **Review** may be reproduced if credit is given.

Bulk postage paid at Vermillion, South Dakota 57069. Published quarterly in March, June, September and December.
Mailed free upon request
POSTMASTER send address changes to:
Business Research Bureau
School of Business-USD
414 East Clark
Vermillion, SD 57069-2390

TREND OF BUSINESS

The U.S. Economy

Preliminary reports from many of the major retailers in the U.S. indicate that the Christmas season began on a strong note. The Manufacturers Hanover "Financial Digest" reports that on a seasonally adjusted basis, November retail sales, excluding automobile sales, increased 1.2 percent compared to October. This was the largest increase in eight months.

Consumers are finding that the cost of some of their holiday presents has remained relatively unchanged from last year. Over the past 12 months prices of consumer goods rose only 1.8 percent, the smallest increase in nearly 20 years. Some items, such as videocassette recorders and compact disc players are actually lower in price now compared to a year ago.

Real gross national product (GNP) rose 3.3 percent in the third quarter of 1985, following two quarters of sluggish growth.

The outlook for auto sales in the United States is for steady growth as a result of lower interest rates.

Inflation, as measured by the Consumer Price Index, is 3.5 percent for the first 11 months of 1985, compared to this period a year ago. It is expected to increase slightly in 1986 to 4.1 percent.

The South Dakota Economy

Problems in the farm sector continue to affect economic growth in South Dakota. The indicators of business activity maintained by the Business Research Bureau reveal a stagnant economy in most respects.

Personal income on a seasonally adjusted basis fell slightly in the second quarter of 1985 compared to the previous quarter. Farm income was down 0.6 percent for this same period.

Non-ag employment dipped slightly in the third quarter of 1985 to -0.5 percent on a seasonally adjusted basis. Construction employment was down slightly for this period. There was little change in South Dakota's unemployment rate. It remained above last year's seasonally adjusted rate of 4.2 percent for the third quarter compared to 5.3 percent for this period in 1985.

Lower interest rates have strengthened new vehicle sales. New car sales rose 0.3 percent in the third quarter of 1985, while new truck sales posted a healthy 19.3 percent increase on a seasonally adjusted basis.

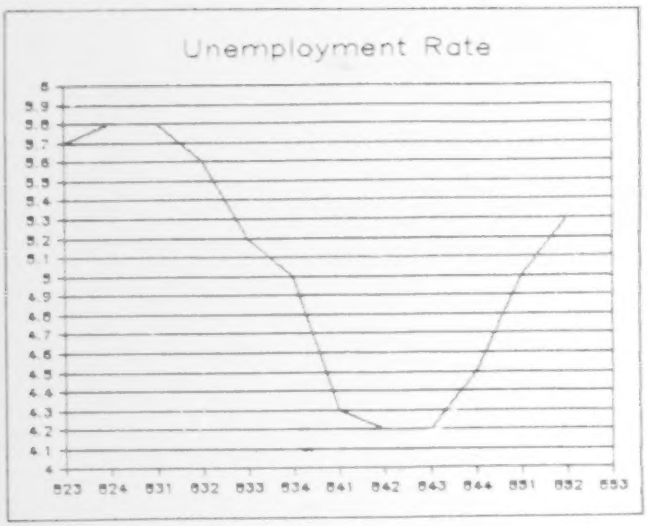
Comparisons of these economic indicators are found in the following table:

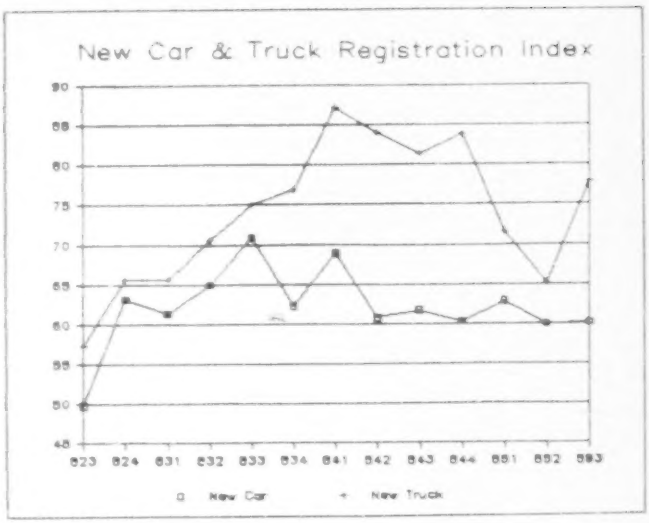
South Dakota Business Indices 1984-1985
Seasonally Adjusted (1972 = 100)

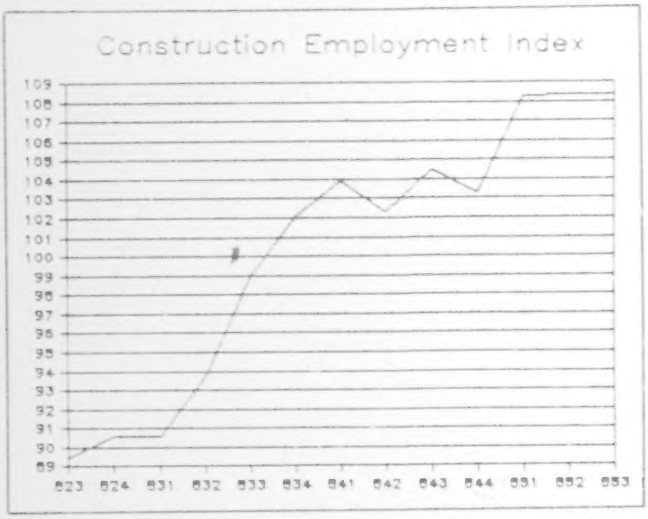
	1984			1985		
	2nd qtr	3rd qtr	4th qtr	1st qtr	2nd qtr	3rd qtr
Personal Income	131.6	137.5	140.6	137.7	137.6	
Farm Proprietors Income	55.9	74.4	87.8	69.3	68.9	
Non-ag Employment	131.0	129.9	127.6	125.8	130.2	129.6
Unemployment Rate (%)	4.2	4.2	4.5	5.0	5.3	5.3
Construction Employment	102.3	104.5	103.3	108.2	108.4	108.3
New Cars	60.8	61.7	60.3	62.8	63.0	60.2
New Trucks	84.1	81.4	83.8	71.6	65.2	77.8

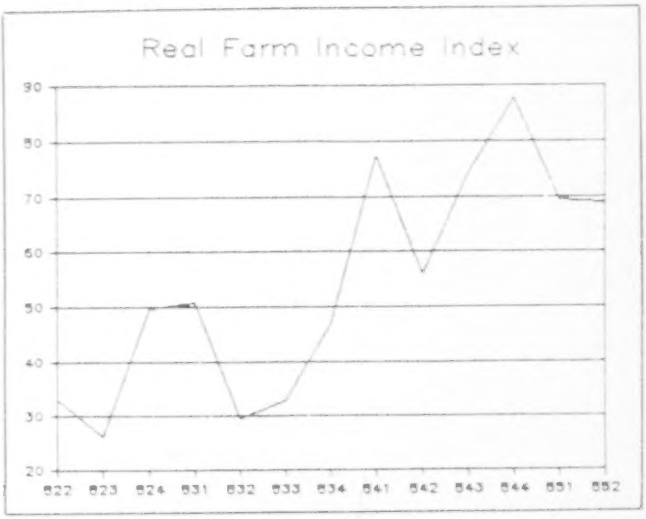
SOUTH DAKOTA BUSINESS & ECONOMIC INDICES

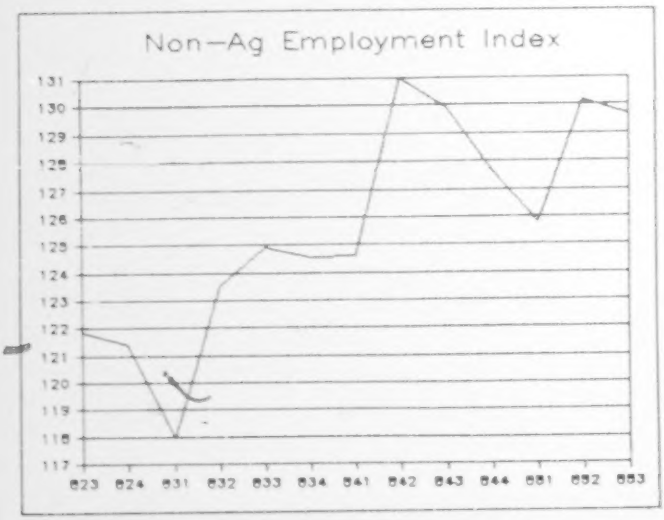
Quarterly Data 1982-1985
Adjusted for Seasonal Variation

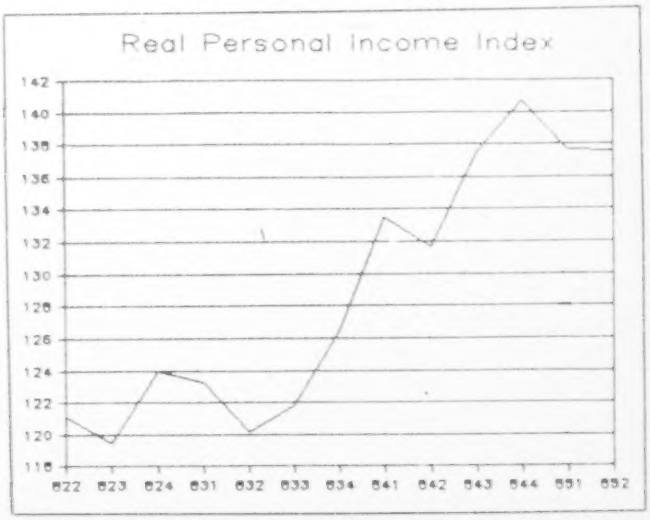












Continued from page 1

Since the Equal Pay Act of 1963 did not have the desired result of equality in pay between men and women, those who thought the act would be effective were faced with two choices: 1) they could abandon the belief that discrimination was the main cause of the disparity, or 2) they could retain the belief that discrimination was the cause, but that somehow the ingenuity of employers permitted them to continue in the abhorrent practice despite the strictures of the legislation. A significant number have adopted the second approach, and now argue that "equal pay for equal work," properly interpreted, means "equal pay for work of equal worth." Hence the birth of the doctrine of comparable worth, an issue about which any but the most bland discussion is likely to excite the passions of chauvinists, militant feminists, friends or enemies of the free enterprise system, and assorted cranks.

The doctrine of comparable worth argues that people who work at jobs which have the same value should be paid the same wage. Few people object to this, but the practical difficulty of comparing different jobs has made agreement on the "worth" of different jobs difficult. One important strand of thought, usually associated with advocates of comparable worth, suggests comparing jobs on a scale where jobs are evaluated on the basis of skill, effort, responsibilty, and working conditions, (or some similar list of job attributes).[1] The most popular method of evaluation under this approach assigns each aspect of the job a certain number of points, with larger numbers representing greater amounts of skill, effort, etc. which the job requires. The numbers are then summed, with the sum representing the "worth" of the job. For example, in the celebrated Washington State study, the evaluation assigned an electrician the same points for knowledge, skills and mental demands as a beginning secretary, and five points less for accountability.[2] Critics complain that such assignment of points is arbitrary, and involves much subjective judgement on the part of the evaluator. In addition, some critics maintain that the market has already evaluated the worth of various jobs, and that if women earn less than men it is because they are in some sense less productive, or have chosen jobs which have a lower value than other jobs.

The issues are thus joined. Protagonists of comparable worth vow to do further battle in the legislatures and in the courts, and opponents charge that significant victories in these arenas will be Pyrrhic, as widespread setting of wages by point assignment will have disastrous consequences for the economy. It seems plain, if we can get clear of the dust of battle, that even a partial resolution of the conflict depends upon the answers to the following general but fundamental questions: 1) what role does discrimination play in explaining wage disparities between men and women, and 2) is wage setting by point assignment an acceptable alternative to market wage determination? We first turn to a discussion of the discrimination thesis.

B. The Discrimination Thesis

It is very common for those who argue in favor of comparable worth to act as if the wage gap between men and women is primarily due to discrimination. Low female wages are seen as being "a result of widespread discrimination by employers."[3] This assertion I call the "Discrimination Thesis." In extreme form this thesis would hold that *all* the difference in male-female wages is due to discrimination. While few people hold this thesis in its most flagrant form, advocates of comparable worth deem the influence of discrimination to be sufficiently powerful to justify the elimination of the market as the mechanism by which wage rates are determined. Discrimination is seen as *the* reason why such drastic policy measures are needed.

It is clear, however, that wages are not determined by discrimination alone. Common sense as well as economic principles suggest, for example, that productivity will have something to do with both the level and structure of wages. Furthermore, even rudimentary analysis suggests that the discrimination thesis is beset by logical and empirical difficulties. One logical difficulty with the thesis is discussed below, and this is followed by a brief review of the literature.

It is widely assumed that firms in the United States are motivated by profit, e.g., new products and production techniques are adopted if they are expected to impact favorably on the bottom line. The very existence of the profit motive, however, creates a logical difficulty for the discrimination thesis. To see this clearly, assume 1) that women are just as productive as men in all endeavors, and 2) that the difference in wages between men and women is due solely to discrimination. Given these circumstances, a firm hiring only women will have substantially higher profits than a firm which hires only males, as the former's wage bill will be 40% lower. For example, let a hypothetical firm have $100,000 in sales and $85,000 in costs, with $60,000 in costs being accounted for by the firm's labor force, which is all male. If the men were replaced by women, with the women, on average, being paid only 60% as much as men, the wage bill drops from $60,000 to $36,000, and profits go from $15,000 to $39,000. Discrimination against women costs those who do the discriminating a great deal of money.

It may be the case, of course, that those who harbor this peculiar prejudice against women are willing to pay something for indulgence in it. Gary Becker's[4] classic economic analysis of discrimination is based on such a willingness, and there is little doubt that real world prejudices may be reflected in this way. But to believe that firms in a competitive environment can survive and prosper while incurring wage costs which are 65% greater than they need be certainly strains the credulity of most people. In addition, it seems clear that even in the unlikely event that *all* men wish to discriminate against women, women may start their own businesses,[5] hire only women, and reap huge profits for themselves.

Clearly the logic of the profit system suggests that discrimination can be costly to those who do the discriminating.[6] It also suggests that discrimination can exist in a competitive economy if the discriminators are willing to endure lower incomes than otherwise. Clearly the curious individual feels the urge to try and assemble some factual data which may shed some light on the question of how discrimination affects wages in the United States. This we do in the following paragraphs of this section.

No small amount of effort has been expended over the last two decades in investigating the question of the in-

fluence of discrimination on the wage rates of women and minorities, but such investigation is complicated by the fact that discrimination cannot be directly observed in a way that lends itself to statistical analysis. Contrast, for example, the ease of measuring the "number of females who got Ph.D's in economics each year between 1960 and 1982," and measuring "the amount of discrimination faced by women Ph.D.'s in economics each year between 1960 and 1982." In the former case there is a number which can be assigned for each year, i.e., in 1960 there were 14 Ph.D. degrees in economics granted to women,[7] in 1961 there were 13[8], and so on. But what number is to be assigned to describe the extent of discrimination against women in 1960 or 1961, or any other year? The inability to fill in such numbers is what is meant when it is said that discrimination cannot be directly observed in a way that lends itself to statistical analysis.

Given the above unfortunate circumstances, the magnitude of the influence of discrimination must be measured indirectly. A commonly used methodology was provided by Oaxaca,[9] a somewhat simplifed version of which is as follows. Starting with the reasonable economic proposition that earnings depend upon educational levels, years of work experience, occupation, etc., a statistical equation is estimated for male wage rates, e.g.,

1) $W^m = B^m X^m$,

Where W^m is the estimated wage rate for males, B^m is a vector of coefficients, and X^m, is a vector of the explanatory variables (education, etc.). A similar equation is estimated for females, e.g.,

2) $W^f = B^f X^f$,

Assuming the female coefficients would hold[10] in the absence of discrimination, the difference between male and female wage rates if there is no discrimination would be:

3) $(W^m - W^f)^o = B^f X^m, - B^f X^f,$
$= B^f \triangle X'$

where the "o" superscript indicates the no discrimination case, and $\triangle X = X^m, - X^f,$

Defining the impact of discrimination as the difference between the actual difference in male-female wage rates and the difference which would exist in the absence of discrimination, we have:

	Actual Difference	Difference if there is no discrimination
4) D	$= (W^m - W^f)$	$- (W^m - W^f)^o$
	$= B^m X^m, - B^f X^f, - B^f \triangle X'$	
Letting $\triangle B$	$= B^m - B^f$	
4a) D	$= (B^f + \triangle B) X^m, - B^f X^f, - B^f \triangle X'$	
	$= \triangle B X^m,$	

Hence the difference in the coefficients is a way of statistically backing into a measure of something which cannot, statistically speaking, be directly observed. Under this approach, discrimination is essentially *defined* as the residual difference in male and female wages after the effects of education and other productivity variables have been accounted for.

The amount of the wage gap which is left unexplained, i.e., $\triangle B X^m$', depends crucially on what the researcher wishes to include as productivity variables. If, for example, detailed occupational structure variables are included as explanatory variables the $\triangle$ B's become very small, pretty well eliminating labor market discrimination as a significant factor in determining wage differentiation.[11] On the other hand, the $\triangle$ B's can be made large by excluding a number of variables, especially occupational variables. Many researchers hesitate to include detailed occupational variables because of a concern that women may be crowded into a limited number of occupations as a result of prejudice on the part of employers. If this is true, and occupational variables which are themselves tainted with discrimination are included as explanatory variables, wage discrimination between men and women would clearly be underestimated. Typically elements seen as relevant productivity variables explain about half of the male-female differential, with the range extending up to over 85%,[12] and down to zero percent.[13]

Almost all researchers agree that sex discrimination in the form of unequal pay for equal work is of little, if any, quantitative significance.[14] Any effect of discrimination is apparently felt through the crowding effect, mentioned above, but difficulties in clearly determining how much of such crowding is due to differences in preferences, cultural influences, biological traits, or poorly understood but rational employer behavior, have made it difficult to determine the influence of outright labor market discrimination.

Most economic researchers are also well aware of the limitations of backing into a measure of discrimination by asserting that the unexplained portion of wage differentials is "explained" by discrimination. To do so requires one to make the strong assumptions that: 1) all measurable factors have been accounted for, 2) all such factors have been accurately measured, 3) no such factors have themselves been tainted with discrimination, and 4) no possible explanations other than discrimination exist to explain the remaining disparity in wages.[15] Most investigators hesitate to make such assumptions, and recognize that the unexplained portion of the gap is a measure of our ignorance, not a measure of discrimination.[16]

Very recent analyis has made some sophisticated attempts to overcome some of these problems. For example, the serious problem of mismeasurement of the productivity variables (item 2 in the previous paragraph) has been attacked by a method called "reverse regression." When applied to the male-female earnings disparities, one study reported that for the economy as whole the influence of discrimination on earnings *disappeared altogether*.[17] In addition, another study reported that when data are grouped in an attempt to reduce measurement error, the significance of race as an explanatory variable is diminished to insignificance.[18] These results are a little hard to swallow, given the conventional wisdom on these matters. One should perhaps remain skeptical, especially since the reverse regression technique is controversial.[19] Yet the most recent research on the effect of discrimination is suggesting a diminished, not an enhanced, role for discrimination as an explanation for earnings disparities.

It thus seems clear that the case for discrimination as a

Continued on page 6

Continued from page 5

major determinant of wages is something less than overwhelming. In fact, it appears that even after an immense amount of effort, not much is known about the influence of discrimination on wage rates. Notwithstanding this, proponents of comparable worth believe that the case is sufficiently strong to warrant replacing existing wage rates with rates determined by some sort of point assignment process. A number of elementary economic considerations makes most economists extremely skeptical of such proposals. To prepare for the intellectual ruminations which attempt to justify such skepticism, let us review some simple economics of supply and demand.

C. The Demand and Supply Model of Wage Setting

One way of looking at the demand curve for labor is to see it as a "willingness to pay" schedule. To make this plain, let us make the following mental experiment.[20] Assume that: 1) there are a great number of different industries, 2) all labor is homogenous, and 3) the aggregate supply of labor is fixed but unknown to potential buyers. Imagine now that a special kind of auction is held. One unit of labor is auctioned off at a time, with each firm in each industry being able to bid. Each firm of course, would like to pay as little as possible for the unit of labor, but since the unit of labor being auctioned off may be the last, each firm will be forced to bid up to what the labor is worth to that firm, at which point, if other firms continue to bid, the firm under consideration drops out of the bidding for that unit. The unit of labor goes, of course, to the highest bidder. After the first unit of labor is auctioned off, the 2nd unit is "brought in" to be auctioned off, again going to the highest bidder. This continues until either the market is completely saturated, no bids being received for any additional labor, or the supply of labor is exhausted.

The highest bid for each unit of labor is a point on the demand curve for labor. Common sense predicts, and empirical evidence confirms, that this curve will slope down and to the right, as additional units of labor are worth less to the firm, and will bring correspondingly lower bids.

Supply curves of labor to an industry can be seen in an analogous way, except that the supply is a measure of what *must be paid* (as opposed to what the buyer is *willing* to pay) if the unit of labor is to be acquired. Three general classes of determinants play a role in determining how much the unit of labor must receive. They are: 1) the characteristics of the job in question, 2) the preferences of the individual, and 3) the other opportunities for work which the individual has. The first two elements require little explanation. Some jobs require more skill, effort and responsibility than others. Likewise, some jobs are done in air conditioned, comfortable and aesthetic surroundings, and require no heavy lifting. Some jobs carry more prestige and authority than others, and so on. But there is not universal agreement among individuals which jobs are most desirable. Some people prefer to be outside engaging in vigorous physical effort, while others prefer the quiet atmosphere of a university library or academic office. Yet others prefer the helter-skelter excitement of trading on the commodities or futures market. Surely it is clear that a blend of job characteristics *and* preferences of the individual are important determinants of how much an individual must be paid to be induced to work at a particular activity. In competitive markets, all such elements are automatically evaluated by the persons actually involved in bargaining.

But a third item is equally important, and that is the range of alternatives open to an individual. If labor is not homogenous, not all jobs are open to all individuals. Not everyone has the intellectual equipment for a Ph.D. in mathematics. Hence if a job requires talents which are scarce, such jobs will not provide opportunities for many people. Generally speaking, the fewer alternatives a person has, the less he must be paid to procure his employment.

The supply curve which emerges for each industry is expected to slope up and to the right, as higher wages will be needed to attract workers away from where they are currently employed. The equilibrium wage will, of course, be where the supply and demand curves cross.

Most economists regard the market process by which wage rates are determined as having certain important and desirable characteristics. One of the most important of these characteristics is that the process contains a mechanism which automatically signals where more (or less) labor is needed. Moreover, this mechanism relates wage rates in various occupations to the desires of final consumers for the product being produced. For example, if there is a quickening of the desire for brick houses, a shortage of bricklayers is likely to ensue. The wages of bricklayers will rise, and more bricklayers will be forthcoming as people are attracted to that occupation by the higher wages. This, obviously, results in a greater quantity of brick houses being built, which is precisely what consumers want. It is this aspect of market-determined wages that many people find so desirable, as under this mechanism, labor is allocated to those activities which yield the greatest satisfaction to consumers.

In addition, many analysts will argue that the equilibrium wage rates that result from the operation of such a system are "good" wage rates, as all mutually advantagous trades between buyers and sellers of labor have been consummated. Outside tinkering with wages is undesirable, as it makes people worse off. Suppose, for example, that a self-appointed moralist feels that the price paid for labor (say $2.60) in some industry is too low, and a law requiring that the wage be (say) $3.50 is passed. Firms in the industry cut back on hiring until the last unit hired is just worth the new wage rate of $3.50. The supply curve, however, clearly indicates that there are some workers who are willing to work in this industry as (say) $2.00 per hour, and the demand curve indicates there are employers who are willing to pay as much as $3.30/hr. Both buyers and sellers of labor would be better off if they were permitted to compromise at (say) $2.70, and make the exchange. The buyers are better off because they are willing to pay $3.30, but only had to pay $2.70, while sellers are also better off because they are willing to sell at $2.00, but were able to sell at $2.70. Hence it is sometimes argued that interference with wage rates that are set by properly functioning market forces are cruel and unfeeling in their effects, though not in their intention.

Advocates of comparable worth, however, wish to engage in precisely this kind of interference, as they believe

the market does not adequately measure the "worth" of different jobs. To quote from one popular study" ..... existing wage rates do not in our judgement provide a measure of the relative worth of jobs that avoids discrimination."[21] And so job evaluation plans are to be used as a substitute:

> "In our judgment job evaluation plans provide measures of job worth that, under certain circumstances, may be used to discover and reduce wage discrimination for persons covered by a particular plan. Job evaluation plans provide a way of systematically rewarding jobs for their content---for the skill, effort, and responsibility and the condition under which they are performed."(22)

This brings us foursquare to the question of whether wage determination by point assignment is a viable alternative to market wage determination, as asserted by advocates of comparable worth.

Part II of this article will appear in the next issue of this review.

NOTES

1) *A good description of various methods of job evaluation is in Leonard R. Burgess, Wage and Salary Administration,* Charles Merrill Publishing Co., Columbus, 1984.
2) Quoted from *State Government,* Vol. 57, No. 2, P. 45, note 12. The original source is Wall Street Journal, Jan. 20, 1984.
3) See, for example, "Equal Pay, Comparable Work, and Job Evaluation." *Yale Law Journal,* Volume 90, Number 3, January, 1981, esp. p. 657.
4) Gary Becker. *The Economics of Discrimination,* (U. of Chicago Press, 2nd ed., 1971).
5) Of course it might be argued that women in the U.S. are held in such a state of bondage that they are not permitted to start their own business and prosper through entrepeneurship. Given the prosperity of some other groups, such as Jews and Asian Americans (who have higher incomes than white males), this is difficult to believe. For a good history of various ethnic groups and the discrimination against them, see Thomas Sowell, *Ethnic America,* Basic Books, New York, 1981.
6) It goes without saying, of course, that discrimination is also costly for those who are discriminated against. It should perhaps also be noted that models can be built which permit the employer to gain from discrimination. Most such models are some variant of Joan Robinson's classic analysis of monopsony (See her *The Economics of Imperfect Competition,* Macmillan & Co., London, 1965 edition, esp. Chapter 26.) Janice Madden's *The Economics of Discrimination* (Lexington Books, Lexington, Mass.,1973) is clearly in this tradition. Monopsonistic models have not gained much support in the discrimination literature, partly because persuasive evidence for extensive monopsony power has not been forthcoming.
7) *United States Statistical Abstract,* 1962, Table 177, p.137.
8) _____, 1963, Table 184, p. 141.
9) Ronald Oaxaca, "Male-Female Differentials in Urban Labor Markets," *International Economic Review,* October, 1973.
10) This assumption is arbitrary; it could as well be assumed that male coefficients would hold. This, of course, is the familiar "index number" problem, to which there is no solution. Oaxaca therefore runs his regressions under each assumption, which establishes a range of values.
11) Oaxaca, op. cit. p. 699.
12) Henry Sanborn. "Pay Differences Between Men and Women." *Industrial and Labor Relations Review,* XVII (July, 1964). Sanborn succeeded in adjusting female rates to about 88% of male rates, using 262 detailed occupations in his analysis.
13) James D. Gwartney and Richard Stroup, "Measurement of Employment Discrimination According to Sex," *Southern Economic Journal,* 39 (4) (1973).
14) Hilda Kahne, "Economic Perspectives on the Roles of Women in the American Economy," *The Journal of Economic Literature,* Volume XIII (December, 1975).
15) For example, some crank might argue that rather than showing discrimination, the unexplained residual shows some unmeasured element of male superiority. While most of us strongly disagree with such an assessment, that assertion is no more denied by the usual statistical analysis than is the discrimination assertion.
16) For example, see Randall Filer "Sexual Differences in Earnings: The Role of Individual Personalities and Tastes" *Journal of Human Resources,* 1983, p. 4. Also see Bruce Nelson, Edward Opton Jr., and Thomas Wilson, "Wage Discrimination and the 'Comparable Worth' Theory in Perspective." *University of Michigan Journal of Law Reform,* Volume 13, (Winter, 1980) Number 2.
17) Richard F. Kamalich, and Solomon W. Polachek, "Discrimination, Fact or Fiction? An Examination Using An Alternative Approach," *Southern Economic Journal* October, 1982.
18) Masonomi Hashimoto and Levis Kochin, "A Bias in the Statistical Estimation of the Effects of Discrimination," *Economic Inquiry,* July, 1980.
19) See, for example, Francine Blau and Lawrence M. Kahn, "On Estimating Discrimination in The Economy: Comment," *Southern Economic Journal,* April, 1985, and the reply by Kamolich and Polachek in the same issue. A number of articles on the reverse regression approach are in the *Journal of Business and Economic Statistics,* April, 1984.
20) This mental experiment is, of course, not meant to describe how labor markets actually work. Rather, it is meant to elucidate the nature of demand (and supply) curves for labor.
21) Donald J. Treiman, and Heidi I. Hartmann, eds. *Women, Work, and Wages: Equal Pay for Jobs of Equal Value.* National Academy Press. Washington, D.C. 1981. p. 94.
22) ibid., p. 95.

PERSONAL INCOME 1984

Michael Berg

Introduction

This article presents recent income information obtained from the Bureau of Economic Analysis of the U.S. Department of Commerce. Its purpose is to compare various aspects of South Dakota's personal income with the Plains Region. In addition, the income data is separated into South Dakota counties and major sources of income. The sections on total personal income and major sources of personal income are based on data from August 1985, while the portion on county personal and per capita income is based on data from April 1985.

Definitions

To make the information more meaningful, a few terms need defining. The Plains States are a group of states defined by the Census Bureau as the West North Central Region. This region includes Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Personal income is defined as all income received less personal contributions for social insurance. Income can be from private or government wage and salary disbursements, farm or nonfarm proprietors' income, personal dividend income, personal interest income, personal royalties, transfer payments, or other labor income. Some major components of personal income are defined as follows:

1) Wage and salary disbursements are comprised of wages and salaries including executives' compensation, commissions, tips and bonuses, and the value of payments in kind which represent income to the recipient.

2)Proprietors' income measures the net business earning of owners of unincorporated enterprises, consisting almost entirely of sole proprietorships and partnerships, but it

Continued on page 8

Michael Berg is a Graduate Assistant at the Business Research Bureau, University of South Dakota, Vermillion, South Dakota.

Continued from page 7

also includes producers' cooperatives and other numerically minor forms of noncorporate business.

3) Transfer payments consist of receipts by persons from government and business (other than government interest) for which no services are currently rendered.

4) Other labor income includes employers' contributions to private pensions, health and welfare, and group insurance plans, compensation for injuries, pay for military reservists, directors' fees, and several minor items.

The reader is advised that in some tables individual values may not sum to the reported total due to rounding. Also, the figures currently reported may vary from those of earlier articles because of updates in the information.

Total Personal Income

Table I shows total personal income for the Plains Region which includes South Dakota. In 1984 total personal income in South Dakota was $7,813,000,000. This was a 14.2 percent increase over 1983. Total personal income in the Plains Region had a 12.2 percent increase over 1983. During the same period the United States had an increase in total personal income of 10.4 percent.

Table II identifies total personal income on a per capita basis for the past ten years by state for the region. In 1984, per capita income in South Dakota was 88 percent of the Plains States' average and 87 percent of the national average.

Table III shows the percentage changes in total and per capita personal income between 1975 and 1984 and between 1983 and 1984. Between 1975 and 1984, South Dakota's total personal income increased by 123.9 percent and its per capita income rose 116.2 percent. For this same period, personal income for the Plains Region increased 126.6 percent compared to a U.S. gain of 140 percent. For the ten year period, per capita income rose 116.6 percent in the Plains Region and 118.9 percent in the United States.

TABLE III
Percent Changes in Per Capita and Total Personal Income
Plains States

	% Change in Total Personal Income 1975/1984	% Change in Total Personal Income 1983/1984	% Change in Per Capita Income 1975/1984	% Change in Per Capita Income 1983/1984
Iowa	104.3	15.1	102.3	14.9
Kansas	133.9	10.8	118.5	10.3
Minnesota	136.9	12.3	125.4	11.6
Missouri	133.0	11.3	123.1	10.4
Nebraska	114.4	13.0	105.6	12.1
North Dakota	115.7	6.7	100.6	5.9
South Dakota	123.9	14.2	116.2	13.0
Plains Region	126.6	12.2	116.6	11.5
United States	140.0	10.4	118.9	9.4

Source: Tables I and II.

Table IV presents total personal income in South Dakota in current and 1967 dollars. Further, the percentage changes for the previous year are shown. The deflated income (on income in 1967 dollars) is computed by dividing the current dollar income by the Consumer Price Index. Table IV indicates that total personal income in current dollars grew 123.9 percent between 1975 and 1984, while total personal income in 1967 dollars grew 16 percent in that same period.

Table V shows total disposable personal income for the Plains States. Disposable personal income is defined as personal income less taxes. In 1984, South Dakota's total disposable personal income rose 14 percent over the 1983 amount, an increase of $858,000,000.

Table VI presents per capita disposable personal income. In 1984, per capita disposable personal income in South Dakota was $1128 more than in 1983. The Plains States average rose $1169 while the national average increased $983.

In Table VII, per capita disposable income is presented as a percentage of per capita personal income. Note that for the ten year period 1975-1984, South Dakota had the highest average percentage of any of the Plains States, 89.4 percent, compared to 85.1 percent for the region and the United States. This is a reflection of the low tax rates on income in South Dakota.

TABLE VII
Per Capita Disposable Personal Income As A Percentage of Per Capita Personal Income
Plains States
1975-1984

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Iowa	86.3	85.0	84.7	85.5	84.3	83.9	84.0	84.4	85.0	85.9
Kansas	87.0	86.7	85.8	86.1	86.0	84.9	83.6	83.6	84.7	85.2
Minnesota	84.6	84.2	84.2	83.7	83.0	83.2	83.0	83.0	83.4	84.0
Missouri	86.9	86.0	85.9	85.5	85.1	85.0	84.7	83.9	85.5	85.8
Nebraska	87.7	86.9	85.1	85.5	84.8	84.5	85.9	84.0	86.2	87.0
North Dakota	87.9	87.3	87.5	87.1	87.4	86.4	85.2	87.9	88.6	89.1
South Dakota	90.4	88.9	90.2	89.8	89.7	89.7	89.1	88.3	89.7	89.6
Plains Region	86.5	85.7	85.4	85.2	84.7	84.4	84.3	84.0	85.1	85.6
United States	86.7	85.9	85.3	85.1	84.5	84.4	84.0	84.4	85.3	85.8

Source: Compiled from Tables II and VI.

Major Sources of Personal Income

Table VIII shows the major sources of total personal income in South Dakota for 1982, 1983, and 1984. Between 1982 and 1984, nonfarm total personal income increased 14 percent, while farm total personal income rose 82 percent.

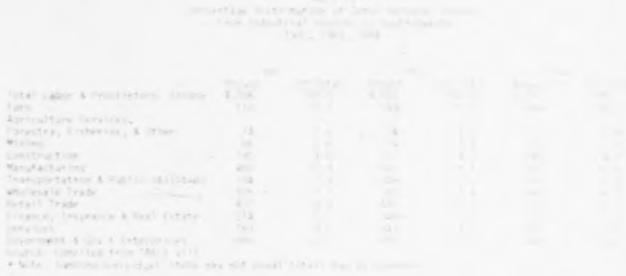
TABLE VIII
South Dakota Personal Income by Major Sources
(Millions of Dollars)
1982-1984

	1982	1983	1984
Income by Place of Residence			
Total Personal Income	6,532	6,843	7,813
Nonfarm	6,014	6,295	6,869
Farm	518	549	944
Derivation of Total Personal Income			
Total Earnings by Place of Work	4,206	4,512	5,251
Less: Personal Contributions for Social Insurance	270	288	316
Plus: Adjustment for Residence	35	13	14
Dividends, Interest, Rent	1,575	1,551	1,770
Transfer Payments	986	1,055	1,094
Earnings by Place of Work			
Wages and Salaries	3,103	3,276	3,608
Other Labor Income	293	334	378
Proprietors Income	810	902	1,265
Farm	409	431	821
Nonfarm	401	470	544
Earnings by Industry			
Farm	518	549	944
Nonfarm	3,688	3,963	4,307
Private	2,833	3,060	3,358
Agriculture Services, Forestry Fisheries & Other	24	24	26
Mining	66	74	80
Construction	190	211	245
Manufacturing	460	500	557
Nondurable Goods	242	254	252
Durable Goods	218	246	305
Transportation & Pub. Utilities	334	346	363
Railroad Transportation	30	29	31
Trucking & Warehousing	119	127	138
Water Transportation	(L)	(D)	(D)
Other Transportation	23	(D)	(D)
Communication	83	89	88
Electric, Gas & Sanitary Serv.	79	77	80
Wholesale Trade	325	332	361
Retail Trade	457	485	527
Finance, Insurance & Real Estate	214	246	274
Banking	85	89	92
Other Finance, Ins.& Real Estate	129	157	182
Services	763	842	926
Hotels & Other Lodging Places	22	25	28
Personal Services	40	44	48
Private Households	18	18	19
Business Services	55	61	72
Auto Repair, Services & Garages	25	28	32
Miscellaneous Repair Services	14	15	17
Amusement & Recreation Services	14	15	16
Motion Pictures	2	2	2
Health Services	350	390	422
Legal Services	58	69	79
Educational Services	38	40	43
Social Services	28	30	34
Museums, Botanical, Zoological Gardens	(L)	(L)	(L)
Membership Organizations	54	57	59
Miscellaneous Services	45	48	55
Government and Government Enterprises	855	903	949
Federal, Civilian	215	227	238
Federal, Military	124	132	138
State and Local	516	544	573

Source: Bureau of Economic Analysis, U.S. Department of Commerce.
(L) Less than $100,000
(D) Not Shown to Avoid Disclosure of Confidential Information
Note: Summing individual items may not equal totals due to rounding.

Table VIII indicates that no industries experienced a decrease in total personal income from 1982 to 1984. The industries that showed the greatest growth in total personal income during this period are: farming (82.2 percent), construction (28.9 percent), and finance, insurance, and real estate (28 percent).

In Table IX, the percentage distribution of personal income from industrial sources is shown. In 1984, the three largest sources of personal income in South Dakota were government and government enterprises (18.1 percent), farms (18 percent), and services (17.6 percent).



County Personal and Per Capita Income

Table X presents total personal income by county. The county with the largest total personal income in 1983 was Minnehaha. This data is the most recent because information on a county basis for 1984 is not yet available.

Table XI shows county per capita personal income. The county with the largest per capita income was Sully with a 1983 per capita income of $14,982.

Continued on page 12

SOUTH DAKOTA INCOME AND EMPLOYMENT

TOTAL PERSONAL INCOME
United States, Plains Region and States
Second Quarter 1984-Second Quarter 1985
(Millions of Dollars, Seasonally Adjusted at Annual Rates)

	1984			1985		% Change 2nd Qtr. 1985
	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	2nd Qtr. 1984
United States	2,989,330	3,057,274	3,112,603	3,159,817	3,190,683	6.7
Plains States	215,919	221,788	226,538	227,845	231,888	7.4
Iowa	34,644	35,055	36,189	36,475	38,005	9.7
Kansas	31,849	32,622	33,296	33,068	33,602	5.5
Minnesota	54,107	55,669	57,003	57,551	58,400	7.9
Missouri	60,226	61,598	62,542	63,360	63,814	6.0
Nebraska	19,363	20,197	20,406	20,700	21,628	11.7
North Dakota	8,200	8,700	8,926	8,623	8,317	1.4
South Dakota	7,530	7,947	8,177	8,069	8,123	7.9

Note: Detail may not add to totals because of rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis

SOUTH DAKOTA NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
Sept.1984 and Sept.1985
(In Thousands)

				Average Weekly Hours		Average Hourly Earnings	
	Sept. 1984	Sept. 1985	% Change	Sept. 1984	Sept. 1985	Sept. 1984	Sept 1985
Total Employment	247.0	245.1	-0.8				
Mining	2.7	2.4	-11.1				
Construction	10.4	11.0	5.8				
Manufacturing	29.2	23.5	-19.5	42.9	40.5	$7.21	$7.34
Durable Goods	16.2	13.1	-19.1	42.0	41.9	7.05	7.30
Fabricated Metals & Mach.	10.6	7.3	-31.1				
Nondurable Goods	13.0	10.4	-20.0	44.1	38.5	7.41	7.41
Food & Kindred Products	7.7	5.1	-33.8				
Paper, Printing & Publishing	2.7	2.7	0.0				
Transportation & Pub. Utilities	12.2	12.6	3.3				
Transportation	7.2	7.5	4.2				
Communication & Pub. Utilities	5.0	5.1	2.0				
Wholesale & Retail Trade	65.9	66.6	1.1				
Wholesale Trade	16.1	15.6	-3.1				
Durable Goods	7.0	6.7	-4.3				
Nondurable Goods	9.1	9.0	-1.1				
Retail Trade	49.9	51.0	2.2				
Finance, Insurance & Real Estate	13.1	13.5	3.1				
Services	58.8	58.7	-0.2				
Hotels, Amuse., Pers. & Business	16.2	15.7	-3.1				
Medical & Health	22.4	22.5	0.4				
Educational, Membership & Social	16.9	16.8	-0.6				
Government	54.6	56.8	4.0				
Federal	10.4	10.8	3.8				
State	14.6	15.7	7.5				
State Education	6.4	7.3	14.1				
Local	29.7	30.3	2.0				
Local Education	16.1	16.2	0.6				

Source: South Dakota Department of Labor, "Labor Bulletin".

SOUTH DAKOTA AGRICULTURAL INDICATORS

SOUTH DAKOTA CROP PRODUCTION
SUMMARY, 1984 and 1985
(As of Nov. 1, 1985)
(000's Bushels)

	Production	
	1984	1985
All Corn	---	---
All Sorghum	---	---
Oats	86,800	96,250
Barley	30,345	33,075
Soybeans	37,280	40,320
Flaxseed	1,494	1,330
Durum Wheat	5,128	2,550
Other Spring Wheat	61,710	62,350
All Sunflowers 1/	633,480	632,480
All Hay 2/	8,083	5,470

1/ Yield in pounds. Production is in 1,000 pounds.
2/ Yield and production in tons.

Source: South Dakota Crop & Livestock Reporter.

PRICES RECEIVED BY FARMERS FOR COMMODITIES SOLD - SOUTH DAKOTA
Sept 1984 and Sept 1985

Commodity and Unit	Base Period Price 1910-1914 Average	Sept 1984	Sept 1985	Sept 1985 Price as % of Base	Sept 1985 Price Above or Below June 1984
Wheat Bu.	.885	3.48	3.27	385	6.0
Corn Bu.	.511	2.85	2.29	449	19.6
Oats Bu.	.355	1.49	1.01	289	32.2
Barley Bu.	.599	1.95	1.60	271	17.9
Flaxseed Bu.	1.68	5.92	5.32	317	10.1
Milk, Whsl. Cwt.	1.82	1/	1/		
Eggs Doz.	.196	1/	1/		
Cattle Cwt.	5.24	57.00	50.90	971	10.7
Calves Cwt.	6.08	67.20	65.30	1074	2.8
Hogs Cwt.	7.07	46.20	39.00	552	15.6
Sheep Cwt.	4.24	14.90	24.70	583	65.8
Lambs Cwt.	5.66	62.50	71.90	1270	15.0
Wool Lb.	.178	.800	.540	303	32.5

1/Season average price only.
Source: South Dakota Crop & Livestock Reporter

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS
(% Change Like Period Previous Yr.)

City	Taxable Sales' Total	Retail	Services	Telephone Services²	Housing Starts³	Postal Indicator⁴	Employment*²
Aberdeen	12.0	8.7	51.4	1.0	103.0	4.2	-3.8
Belle Fourche	-2.8	2.0	9.2	-0.9	19.4		-1.3
Brookings	-0.3	7.7	5.5		-79.1	13.5	-2.4
Canton	11.9	13.1	18.8	0.7			2.0
Chamberlain	2.5	2.3	6.0	0.6	142.1		7.6
Deadwood	6.2	5.1	10.8	0.5			-0.9
DeSmet	-6.3	-6.0	-2.2	-1.3			1.6
Elk Point	-10.9	-6.7	-20.9	-0.3			-9.2
Hot Springs	0.7	2.6	-23.5				-9.4
Huron	-3.9	-7.6	-4.7	0.0	2.3	32.4	-2.2
Lead	-2.8	5.9	-1.7	-1.3			-0.9
Madison	1.2	4.6	-1.5	0.9	-57.3		0.3
Milbank	0.5	-0.5	-14.6	-0.3	74.3		0.6
Mitchell	2.8	3.0	1.9	0.3	-51.1	-1.8	-2.8
Mobridge	2.5	2.4	5.5	1.1			-3.7
Pierre	2.1	-4.7	17.4	0.9	-34.8	-1.9	-0.2
Rapid City	7.4	6.3	6.0	3.5	44.7	13.9	-0.9
Sioux Falls	3.8	3.6	7.2	4.3	-88.2	6.7	4.2
Spearfish	8.8	1.7	41.2		-7.7		-0.9
Sturgis	-0.4	5.0	-7.8	1.6			-4.1
Vermillion	0.6	0.2	23.7	-4.4	363.9		2.8
Watertown	5.4	7.3	14.3	3.7	20.8	14.9	4.8
Winner	-5.2	-1.4	-10.2	-0.2			10.6
Yankton	-2.5	-3.4	8.6	-0.1	-75.9	15.4	-1.4

*Based on County Data

'Percentage change for July-August 1984 and 1985.

²Percentage change for Sept. 1984 and 1985. Telephone data are for the number of access lines in service.

³Percentage change for January-September of 1984 and 1985. Data reported for housing represent the value of housing starts)

⁴Percentage change for the third quarter of 1984 and 1985. Included in postal indicators are: postage stock sales, postage meters for customers, meter imprint postage (3rd class regular), and second class postage.

Address Correction Requested

Bulk Rate
Non-Profit Organ.
U.S. Postage
Vermillion, SD 57069
Permit No. 14

SOUTH DAKOTA
Business Review

BUSINESS RESEARCH BUREAU
SCHOOL OF BUSINESS - USD
414 E. CLARK STREET
VERMILLION, SOUTH DAKOTA 57069

Published by Business Research Bureau, The University of South Dakota

Continued from page 9

The final table, Table XII, presents the percentage changes in total personal income and per capita personal income from 1982 to 1983. Bennett county had the largest increase in both total personal income (19.5 percent) and per capita personal income (19.1 percent).

CONSUMER PRICE INDEX

United States
Jan.-Sept 1985
(1967=100)

Item	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Unadj. % Change Jan.-Sept.
All Items	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	2.7
Food & Beverages	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	0.9
Food	307.3	309.5	309.7	309.6	308.9	309.3	309.5	309.7	309.9	0.8
Alcoholic beverages	224.3	225.8	226.5	226.7	227.7	227.8	227.8	228.9	229.3	2.2
Housing	342.0	343.6	344.7	345.9	348.5	350.4	351.6	352.9	353.8	3.5
Shelter	371.2	373.1	374.3	375.9	379.5	381.0	383.2	385.9	386.9	4.2
Renters' Costs	111.8	112.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	4.7
Homeowners' Costs	110.0	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.6	4.2
Fuel & Other Utilities	387.2	386.5	388.2	388.7	393.0	399.4	399.9	398.9	400.5	3.4
Fuel	481.2	480.8	482.2	483.0	490.0	497.7	497.3	494.4	496.8	3.2
Fuel oil, coal & btld. gas	621.6	623.4	620.8	623.5	620.8	612.0	601.9	594.6	601.7	-3.2
Gas (piped) & electricity	444.1	443.3	445.5	445.9	454.7	465.6	467.1	465.1	466.5	5.0
Other util. & Pub. Services	235.3	234.3	236.3	236.4	236.8	241.1	242.8	244.2	244.6	4.0
Household furnishing	244.2	246.2	246.9	247.9	247.6	247.1	246.5	247.0	247.1	1.2
Apparel & upkeep	199.8	201.8	205.3	205.9	205.3	204.6	202.8	205.3	209.6	4.9
Transportation	314.7	314.3	316.7	320.0	321.4	321.8	321.8	320.7	319.7	1.6
Private transportation	309.1	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	1.5
Public transportation	394.5	394.4	397.3	398.0	398.4	399.3	402.4	403.7	408.0	3.4
Medical care	391.1	392.8	396.5	398.0	399.5	401.7	404.0	406.6	408.3	4.4
Entertainment	261.0	261.3	262.2	263.3	263.6	264.8	265.7	265.7	266.8	2.2
Other goods and services	319.1	320.5	321.1	321.8	322.3	323.0	325.0	326.0	332.3	4.5

*Consumer Price Index for all Urban Consumers

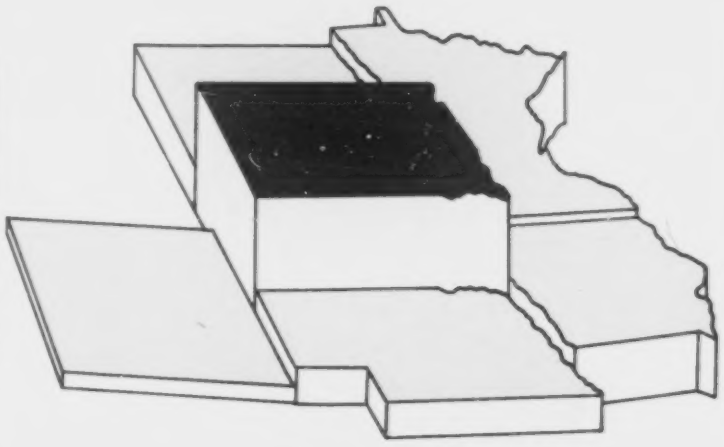
Source: Bureau of Labor Statistics, U.S. Dept. of Labor

1400 printed at an estimated cost of 0.4955 each for educational purposes.

48595-1

SOUTH DAKOTA Business Review

March 1986
Vol.XLIV, No.3



Published by Business Research Bureau, The University of South Dakota

General Indicators	SOUTH DAKOTA Latest Quarter	SOUTH DAKOTA Latest Quarter	SOUTH DAKOTA Year Ago	SOUTH DAKOTA Percent Change	UNITED STATES Latest Quarter	UNITED STATES Year Ago	UNITED STATES Percent Change
Personal Income ($ Mil.)	1985-3	7,790	7,947	-2.0	3,211,584	3,057,274	5.0
Farm Prop. Income ($ Mil.)	1985-3	427	831	-48.6	13,523	28,645	-52.8
Non-ag Employment (Thous.)	1985-4	244	246	-0.8	98,786	95,849	3.1
Unemployment Rate (%)	1985-4	5.1	4.7	8.5	6.7	6.7	0.0
Total Employment (Thous.)	1985-4	328	325	0.9	108,258	106,186	2.0

Note: All U.S. data seasonally adjusted except for the unemployment rate and total employment. For South Dakota data only personal income and farm proprietors' income are seasonally adjusted.

COMPARABLE WORTH IN THE DOCKS
Some Reflections on Emoluments
Part II

Dennis A. Johnson

We have seen in the first part of this essay (see December 1985 issue of the Review) that little is know about the influence of discrimination on market wage rates. Nonetheless, proponents of comparable worth believe that the influence is sufficiently strong to warrant mandating firms to set wages on the basis of job evaluations which purport to measure the value, or worth, of each job to the employer better than does the market. Many economists tend to be skeptical of this, partly because, as detailed in Part I of this essay, paying males a high wage to do a job which can be done equally well by females at a lower wage is inconsistent with profit maximization in a (reasonably) competitive economy. Part II of this essay addresses the issue of comparable worth itself, and is organized as follows: Section I briefly describes some common elements of job evaluation procedures, Section II is a critical analysis and commentary, and Section III concludes the essay.

*Dr. Dennis Johnson is Professor of Economics at the University of South Dakota. The author wishes to thank members of the Business School Research Seminar for helpful suggestions. To Dr. Ralph Brown go special thanks for comments on this part of the essay. The usual caveat applies.

I. Characteristics of Popular Evaluation Methods

Most advocates of comparable worth believe that equitable wages are intimately related to characteristics of the job; those jobs that require more skill, effort and responsibility should be remunerated more liberally. In the

Continued on page 4

TABLE OF CONTENTS

Some Reflections on Emoluments, Part II
Dennis A. Johnson.....1

Trend of Business.....2

EMPLOYMENT-AT-WILL: Changes Underway
James M. Peterson.....7

General Economic Tables.....10, 11, 12

SOUTH DAKOTA BUSINESS REVIEW

March 1986

Business Research Bureau
School of Business
The University of South Dakota
605-677-5287
D.E. Clement, Dean, School of Business

Vol.XLIV,No.3

ADVISORY COUNCIL
Robert C. Atkins, John Morrell & Co., Sioux Falls
Ben Blumenthal, Blumenthal's, Rapid City
O. Robert Brancel, Bank West, Pierre
Donald E. Culhane, Culhane's Dairy, Mitchell
Kent E. Edson, Dacotah Bank Holding Company, Aberdeen
Richard C. Erickson, Rushmore Mutual Life Insur. Co., Rapid City
Robert H. Frei, Commerical State Bank, Wagner
Kenneth B. Jones, Yankton Drug Co., Yankton
C.P. Moore, Norwest Bank, Sioux Falls
Allan H. Moum, Larson Manufacturing Co., Brookings
Rudolph A. Nef, Valley Queen Cheese Factory, Inc., Milbank
Jack G. Rentschler, Rentschler's Standard Truck Plaza, Sioux Falls
Jack Riordan, Mountain Company, Inc., Keystone
Walter J. Schramm, Schramm Furniture, Winner
Frank E. Short, CPA, Rapid City

BUSINESS RESEARCH BUREAU
Donald W. Lewis, Director
Randall M. Stuefen, Associate Director
Nancy Nelson, Economic Analyst
Bill Powell, Systems Analyst
DeVee Goss, State Data Center Director
Nancy King, Statistical Clerk
Mary Bartels, Administrative Secretary
Ruby Plate, Data Base Administrator
Don Greenfield, SBDC Director
Dick Barta, BIA Program Director
Anne Shank-Volk, SBDC Area Director
John Huminski, SD International Export Director
Marie Tyburec, Staff Assistant

The opinions expressed by our contributors may not be those of the Business Research Bureau, the School of Business, or the University of South Dakta. **The South Dakota Business Review** attempts to stimulate and inform but not to convert readers to any particular view point.

Any material in the **Review** may be reproduced if credit is given.

Bulk postage paid at Vermillion, South Dakota 57069. Published quarterly in March, June, September and December.
Mailed free upon request
POSTMASTER send address changes to:
Business Research Bureau
School of Business-USD
414 East Clark
Vermillion, SD 57069-2390

TREND OF BUSINESS

The U.S. Economy

Inflation continues to remain low with a 3.6 percent rate in 1985. The drop in oil prices should help keep inflation rates low during 1986.

The housing industry is experiencing some growth with January 1986 housing starts at their highest level in nearly two years. Unseasonably warmer weather and lower mortgage rates have contributed to this growth.

The employment sector increased in the fourth quarter 1985 compared to this period a year ago -- both in total employment and non-agricultural employment. The unemployment rate for this period was unchanged at 6.7 percent.

Gross national product, a measurement of the market value of the output of goods and services produced by the U.S. economy, increased 2.2 percent in the fourth quarter of 1985 compared to the same quarter of 1984.

The South Dakota Economy

The indicators of business activity maintained by the Business Research Bureau continue to reflect little to no growth. On a seasonally adjusted basis, non-agricultural employment dipped slightly in the fourth quarter of 1985 compared to this period a year ago. Annual comparisons of the major industrial groups of non-agricultural employment showed the largest gains to be in the finance/insurance/real estate sector with a 6.1 percent increase in 1985 compared to 1984. Government employment was up slightly (0.9%) for this same period. Employment in the services industry grew in 1985, although at a slower pace than in 1984. Transportation/public utilities, and wholesale/retail trade rose 3.3 percent and 0.5 percent respectively. Construction employment increased 1.1 percent while mining and manufacturing employment fell 11.1 percent and 6.2 percent respectively.

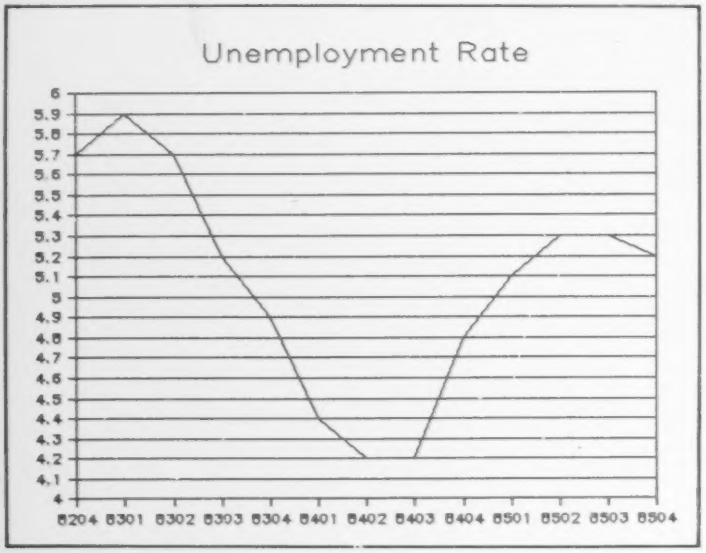
On a seasonally adjusted basis, the unemployment rate rose 5.2 percent in the fourth quarter of 1985 compared to 4.8 percent a year ago.

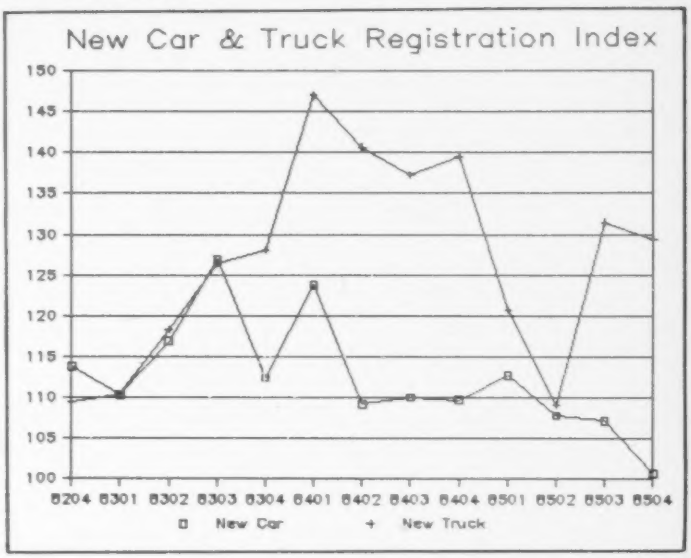
The income sector continued its downward slide during 1985, with personal income falling nearly 5 percent in the third quarter of 1985, compared to this period a year ago. Farm income, which decreased by 50 percent for this period, was a major influence in the decline in personal income.

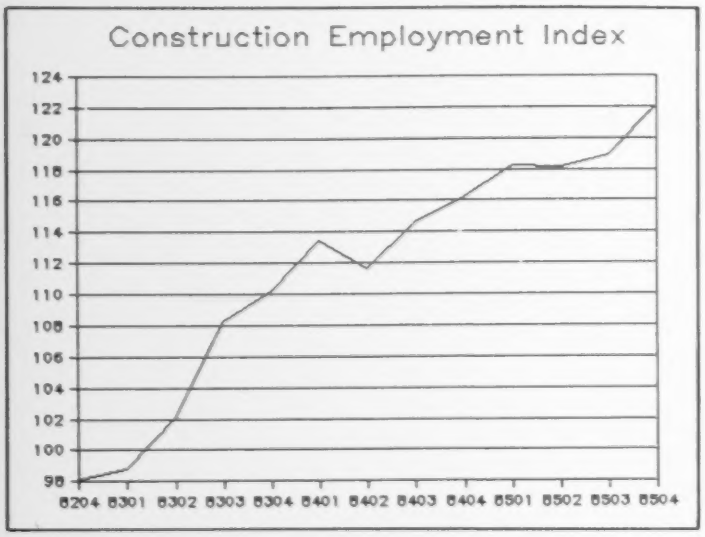
Sales of new cars and trucks were also down in the fourth quarter of 1985 from a year ago, decreasing 8.2 percent and 7.3 percent respectively.

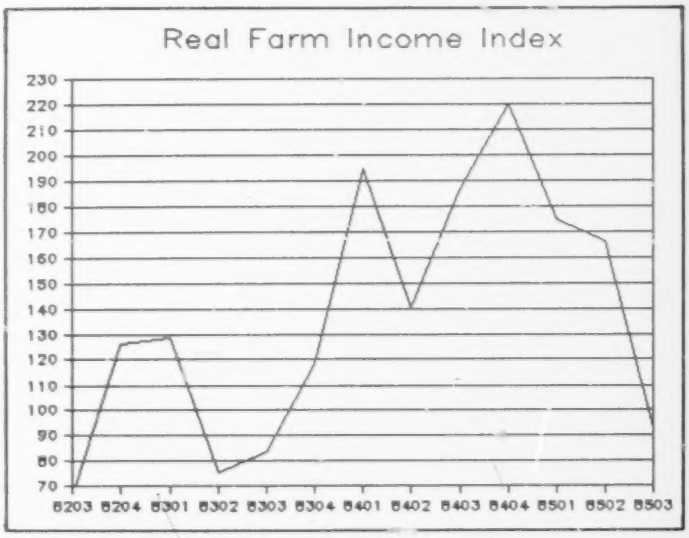
SOUTH DAKOTA BUSINESS & ECONOMIC INDICES

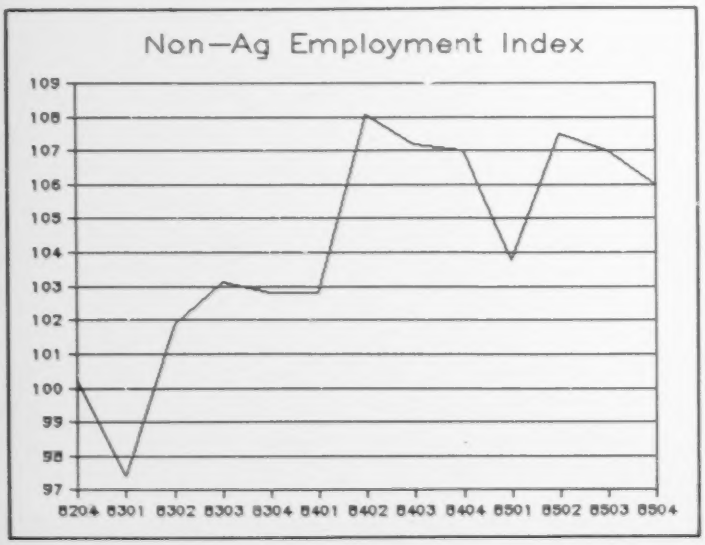
Quarterly Data 1982-1985
Adjusted for Seasonal Variation

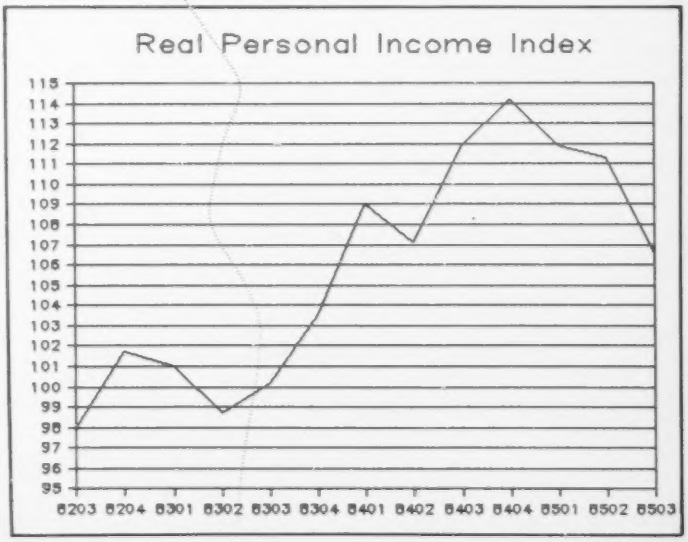










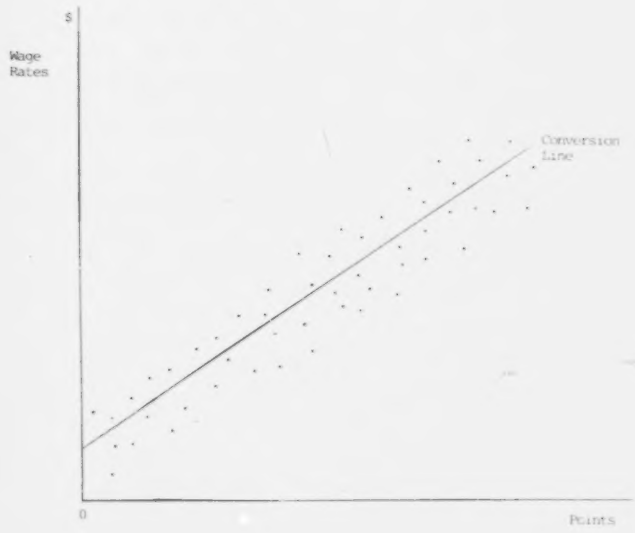


current context, job evaluations are most clearly understood if they are seen as instruments for: 1) measuring the amount of skill, etc. a particular job requires, and 2) translating these measurements into dollar wage rates.[1]

The most popular method of "measuring" the magnitude of the various job characteristics is the assignment of points for each job characteristic. Such points are determined by a job evaluation committee which, for example, may assign a particular job 40 points for skill, 50 for effort, and 60 for responsibility. Another job may be assigned 50 points for skill, 30 for effort and 35 for responsibility. Following the point assignment for individual characteristics, the points are summed,[2] and those jobs with the greatest number of total points are defined as being of the greatest value to the firm.

The second step, that of transforming points into wage rates, is commonly accomplished by regressing the total number of points assigned the various jobs against the current wage rates paid to holders of those jobs. The result is illustrated in Figure I, where it is seen that a certain number of points implies a certain wage.[3] If the actual wage for a job is "too far" from the line, the wage will be adjusted towards the line, i.e., the wage is adjusted until it is paid in accordance with other jobs which have approximately the same number of points. Wages are then paid, it is argued, on the basis of the "worth" of each job to the employer.

Figure 1
CONVERTING POINTS TO WAGE RATES



Most job evaluation schemes follow the same general procedures outlined above, differing somewhat in the nomenclature describing job characteristics, and the procedure which converts job points into dollar wages. One job evaluation method perhaps deserves special mention because it avoids the conversion process entirely by assigning dollar values, rather than points, to various job factors. Such an approach is called the "money factor comparison approach" and involves defining certain "key" or "benchmark" jobs which have market wages that are believed equitable. Portions of the current market wage are then assigned to the various job factors. For example, let carpentry be a benchmark job, and let the total hourly wage for a carpenter be $8.75. Of this the job evaluation committee may decide that $2.10/hr. is for skill, $2.40/hr. is for mental requirements, and $1.30, $1.95, and $1.00 are for physical requirements, responsibility and working conditions, respectively. The same is done for other key jobs. Job evaluators rank nonkey jobs by reference to the benchmark jobs, and assign dollar values to the factors of each job, being careful to assign values that are consistent.[4] Inflation and changing market conditions quickly make such assignments obsolete, however, and this has limited the popularity of this approach.

II. Critique and Commentary

Money Factor Comparisons

Let us begin by making a brief comment on the money factor comparison approach. Such a procedure is tied more closely to the market than point assignment methods, as the bench mark jobs maintain market wage rates. The assignments of portions of this wage rate to the various factors of the job can only be described as arbitrary, with the arbitrariness limited solely by the fact that the various numbers assigned to the different factors must sum to the total wage rate. This is tantamount to pretending there is a market for each of the factors, i.e., there is market for skill, a market for physical and mental efforts, and so on. Such markets, however, are not observed, and hence have a quixotic existence, not unlike that of gremlins.

THE POINT ASSIGNMENT APPROACH

a. The Commensurability Problem

We will first give attention to an important and inherent intellectual flaw which exits whenever points assigned various job factors are summed. As seen in Section I of this part, the process of setting wages by point assignment involves the **addition** of points assigned to various job aspects, or factors. In order for addition of such numbers to validly occur, that which the numbers measure must be commensurable, as if they are not, no meaning can be given to the sum. For example, we all understand that adding 3 apples and one living room couch yields nothing in particular; and neither does adding 50 points for skill to 30 points for effort.

This problem is not new to the economics profession. For example, economists have long wished to compare the national income of one country with another. National income, as everyone knows, is made up of all the goods and services produced by a nation in a year's time. But if one nation, for instance, has 5 fish and 2 loaves, and another has 4 fish and 3 loaves, which has the larger income? Nothing meaningful is gained by adding the fish and the loaves, as it is not clear what the sum represents.

Obviously something must be done to make fish and loaves commensurable. The existence of free markets will perform such a task for us, as such markets yield relative price ratios in which the value of one product in terms of another is determined, e.g., if one loaf trades for two fish in both countries, the national income in terms of fish is 9 for the one country, and 10 for the other.[5] The price ratios which permit such calculations are not arbitrary, as they are determined by the preferences of the traders and the

cost of production, and are market clearing as well.[6]

Clearly the point system of evaluating jobs must develop something which makes points assigned to the various job factors commensurable. Those familiar with the history of economic thought will recall, usually with some amusement, the concept of a util, and briefly flirt with the idea that the numbers assigned job factors in a point assignment scheme might be defined as the (dis)utility of each job factor. But one also recalls that the old fashioned[7] util as an empirically meaningful unit of measurement was abandoned, for good reason, by the economics profession over half a century ago.[8] It seems unlikely that such a concept would knowingly be revived in the modern context of comparable worth.

Other procedures may prove more tractabie. One alternative is to convert points to dollars prior to summing. A procedure sometimes called "policy capturing" uses regression techniques to accomplish this.[9] Points assigned each factor in the key jobs are regressed against the market wages for such jobs, such wages being assumed equitable for these purposes. This will yield values for the coefficients in the equation:

$$W = A + \sum_{i-1}^{n} B_i X_i$$

Where A = a constant

B_i = the coefficient (conversion factor) for each job factor.

X_i = number of points assigned the ith job factor by the evaluation committee.

Each coefficient reflects the number of dollars each point assigned a job factor is worth. If, for example, the skill factor has a coefficient of .02, then a point of skill has a dollar value of 2 cents.

Such a procedure, however, only pushes the issue of commensurability back a step, as the regression procedure will require, for example, addition of the points assigned to the various jobs for skill. This requires commensurability between "skill points" assigned one job and those assigned another. If units of "skill" cannot be observed, the procedure becomes subject to the criticisms leveled at the old fashioned util. Certainly the transformation problem of points into dollars is at present in an unsatisfactory state, and is likely to remain so as long as job evaluation schemes use unobservable entities as units of measurement.

b. The Resource Allocation Question

Most people are aware, if somewhat vaguely, that wage rates have something to do with the allocation of labor to various activities and occupations. High wages tend to attract more workers. If we are concerned that labor be allocated to those activities that yield products that consumers most intensely desire, there must be some mechanism by which consumer preferences for products be reflected in wage rates. Economic analysis of a market system makes this relationship in such a system clear, and expresses it in summary form as follows.

Wage rate = Price of product x marginal product of labor. Clearly as the price of the product rises, everything else remaining the same, wage rates will increase too. If the price of the product reflects the intensity of desire for additional units of the product, we have a clear and direct connection between wage rates and the value of what is produced. If, however, wages are determined by point assignment, there is no apparent connection between the value of what is produced and the wage rate to be paid. Proponents of comparable worth have not concerned themselves with a correspondence between the wage rate and the value of what is produced; they concern themselves with the correspondence between the wage rate and the number of points assigned by a job evaluation committee.

It is difficult to overemphasize the importance of this point. Certainly a humane society would wish to cater to the preferences of its members. But under the doctrine of comparable worth there is no mechanism by which consumer preferences impact on the value of the various jobs. This is so because the demand side is basically ignored in the usual wage determination by point assignment process. Michael Levin provides a dramatic illustration of this point as follows:

> *...let us assume a skill which is objectively difficult and reflects much objectively measurable training on the part of its practitioner; but let us also suppose it is a skill no one is interested in. Consider a person who is adept at throwing arrows into the air and catching them with his teeth. This is extremely difficult to do, and takes endless practice. Basketball players earning six-figure salaries do nothing so demanding. Unhappily, nobody wants to hire our man to catch arrows. He must eke out a living as a street entertainer. Is he somehow being denied his intrinsic worth by passers-by who flip him quarters? Does a circus scout who offers him a pittance for his act undershoot what the knack entitles him to? The answers would seem to be no. Intrinsic moral and aesthetic merit aside, the skill is economically worthless--unable to command other goods and services--if no one will pay for it. Only someone willing to trade something for the service in question can confer economic worth on it.*[10]

It is but a short step to realize that as wage determination by point assignment has no mechanism for transmitting the desires of consumers to wage rates, neither has it an obvious mechanism for incorporating into the wage the preferences of workers. While it may be possible to describe certain job characteristics, it is difficult to determine **a priori** which of these characteristics will be desirable or undesirable for workers. Furthermore, even if it could be agreed that certain job characteristics would be (un)desirable, it is impossible to measure, before the fact, the degree of undesirability in the sense of determining how much must be paid to compensate workers for the (dis)agreeableness of a particular job.[11] This is so because of the inability to directly observe human preferences. What one person likes, another may like less, or even abhor.

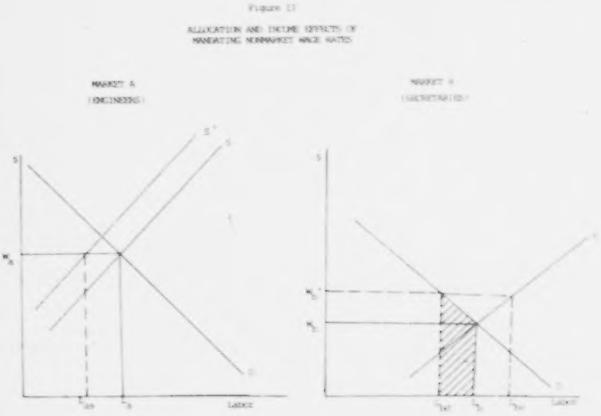
c. The Adding Up Problem

Any theory of resource pricing which is to be regarded as intellectually adequate must show that if resources are priced in the way described by the theory, the economy will balance, i.e., the total amount produced must be equal to the total payments made to the factors of production. If this condition is not met, then either claims on the total product exceed the amount of the product available, or the claims are less than the total product. Economic analysis has established that if factors of production are paid their

marginal product the claims on total output will exactly equal total output.[12] The economy is capable of equilibrium. No one, however, has described the mechanism by which this equilibrium can be reached, even conceptually, under a system of wage determination by point assignment.

d. Consequences

If wages are set by point assignment, and if this results in wage rates different from market wage rates, the consequences will include a decline in average income as well as shortages and surpluses of labor in various occupations. To briefly illustrate this, let there be two occupations with labor freely mobile between the two, and let the total amount of labor be fixed. Assume, to start, that markets are in equilibrium with (in Figure II) the wage rate in market A (engineers) being W_a, and the wage rate in Market B (secretaries) being at W_b. Now let the point evaluation procedure result in raising the wage rate in market B to W_b, while maintaining the same wage in market A. The results are as follows. The number of workers employed in market B declines to L_{bd}. The increased wage rate in Market B will cause some workers in market A to wish to work in market B. This fact is reflected graphically by: 1) shifting the supply curve in Market A to the left, and 2) moving along the supply curve in Market B to L_{bs}. Unemployment, or a surplus of labor, develops in market B to the magnitude of $L_{bs} - L_{bd}$, and a shortage of labor develops in market A. As workers discover employment cannot be found in market B, they



may drift back to market A, but Market A will never employ more than the original amount, L_a, as employers will not hire more as long as the wage rate is fixed at W_a. Hence losses in national income will, at a minimum, be equal to the shaded area in Figure II.

As time goes on other changes will occur. For example, technology will change, resulting in a shift in demand curves; preferences of workers may change, resulting in a shift in supply curves, or consumer preferences will change, resulting in further shifts in demand curves. As a result of any or all of these changes, and with wages fixed by point assignment, the cost in terms of declines in national income becomes larger and larger. Ultimately to reduce such costs, the point assignment method will either be abandoned or adjusted to more closely reflect market values.

Ironically, a second consequence of such wage adjustments is the increased ability of employers in market B to discriminate against workers, as the cost of such discrimination is reduced. As detailed in Part I of this essay, when the wages of the least favored group were lower than that of other groups, the amount of the discrimination by employers was mitigated by the cost of engaging in it. If wages of all workers for a job is fixed by fiat, such a cost is eliminated, and the amount of discrimination thus increased. Hence a proposal which is intended to help women may well result in harming women as a group, since the policy both reduces national income and reduces employment opportunities for them.

III. Conclusion

John Maynard Keynes once observed that "practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist.[13]" This is especially apt with the controversy over comparable worth, as this field of inquiry has been well plowed by the strife of economists. The labor theory of value, long since abandoned by economists of every genre except unregenerate Marxists, produced a constroversy which elicited most of the arguments heard in the present controversy. The following criticism of the idea of a relationship between the "effort" required to produce a product and its value, written over a century ago, illustrates the hoariness of such controversies.

> *Are value and effort concepts so indissolubly connected that the conviction is immediately forced upon us that effort is the reason for value? I do not believe any unprejudiced person can so maintain. That I have slaved to acquire a thing is* **one** *fact; that the thing is worth slaving for is second and different fact. And that both facts do not always go hand in hand is far too well corroborated by experience to admit of any possible doubt....I think a little cogitation, in place of blind acceptance, will lead to the conviction that there really can be no such thing as the direct and compelling appreciation of an inner connection between effort and value...*[14]

Although the controversy went on for some time after the above paragraph was written, the labor theory of value has long since been laid to rest. That this is so perhaps helps explain why the topic of comparable worth often elicits only bored looks from modern academic economists.

NOTES

1) A more complete description of all methods discussed in the text, as well as others, can be found in a number of textbooks on wage and salary administration. See for example, Leonard R. Burgess, *Wage and Salary Administration*, Charles Merrill Publishing Company, Columbus, 1984.

2) The popular Hay Method uses this approach.

3) Some studies (See American Federation of State, County, and Municipal Employees v. State of Washington. 578 F. Supp. 846 (W.D. Wash. 1983) have found that when jobs are evaluated on a point basis the jobs which have a dollar compensation which is below the conversion line are generally held by women, while those jobs which have compensation above the line are generally held by men. This by itself is sometimes taken as evidence of inequity; jobs which have the same number of points are paid more if men have them than if women have them. Surely, however, such a distribution is in itself incapable of determining whether the market systematically under-

pays women, or whether the job evaluation committee consistently overassigns points to jobs held by women.

4) A job which is valued lower than some other job must not end up with a higher rate of pay.

5) The case where relative prices differ from one country to another involves the index number problem, which is insoluble, although upper and lower bounds on relative national incomes are usually possible to determine even in the case of unequal relative prices.

6) For a more complete discussion of such prices and their determination the interested reader should consult any good text in intermediate price theory, e.g., Donald McCloskey, *The Applied Theory of Price*, 2nd ed., MacMillan, New York, 1984.

7) The term old fashioned is used to distinguish the classical concept from that of the modern version of Von Neuman and Morgenstern, which is subject to none of the objections brought against the old fashioned version.

8) A major reason for the abandonment was that a util cannot be observed, and hence is inappropriate for empirical measurement. The publication of John Hicks *Value and Capital* was one of the first demonstrations that all theorems of interest in the theory of consumer behavior could be derived without reference to the concept of a util.

9) See for example, David Pierson, et. al., "A Policy-Capturing Application In a Union Setting", *Comparable Worth and Wage Discrimination*. ed. Helen Remick. Temple University Press, Philadelphia, 1984.

10) Michael Levin, "Comparable Worth: The Feminist Road to Socialism," *Commentary*, September, 1984, pp. 13-19.

11) How markets incorporate worker performances into wages is described in any good text in intermediate microeconomic theory, e.g., McCloskey, op. cit. Chapter 25.

12) It is also necessary that the production function be linear homogenous at the equilibrium level of output.

13) Keynes, John Maynard, *The General Theory of Employment, Interest, and Money*. (Harcourt, Brace & World), New York, 1936, p.383.

14) Bohm-Bawerk, Eugen. *Capital and Interest*, first published in 1884. The quotation is from p. 288 of the 1959 edition published by Libertarian Press, South Holland, Illinois.

EMPLOYMENT-AT-WILL: CHANGES UNDERWAY

By James M. Peterson

The law of the Medes and the Persians was famous for its immutability. That particular characteristic of their ancient system is surely not representative of American law. Our law, especially in this century, has been anything but immutable. Indeed, if there be a common thread in warp and woof of the fabric of our legal system, it is a thread of constant change. Changes are usually slow and evolutionary in nature, but changes there are. Moving slowly here, faster there, with long pauses and occasional spasmodic shudders, the rules and principles comprising our legal system do evolve. Such changes, of course, usually come as responses to pressures within the society, pressures building from the wants and needs of society, real or apparently real. One of these areas of law where change is currently occurring is in the law relating to employment relationship, and in particular with respect to a doctrine known as "employment-at-will". Here, the changes are rapid and substantial.

An appreciation of what is transpiring in this body of law is best gained by looking to see what the law has been (and, despite changes, often still is). The doctrine of "employment-at-will", in brief, embodies the principle that (absent other considerations) either party to the employment relationship can terminate it at any time, for any reason, or, indeed, for no reason. The employer may fire the employee for most any reason or for no reason. Conversely, the employee can quit for any, or no, reason. Either may act "at will". In such an event, neither party has any legal liability for the termination. Another way of putting it is to say that the employment may be ended without cause. This doctrine, rule or principle was formulated by the courts and is a part of our common law heritage. Indeed, that common law rule has been incorporated into the South Dakota statutes. S.D.C.L. 60-4-4 provides: "Termination at will. An employment having no specified term may be terminated at the will of either party on notice to the other, unless otherwise provided by statute."

The doctrine is, of course, not applicable to every employment situation. For example, the parties themselves may have supplanted employment-at-will with some other rule. In a collective bargaining situation, e.g., the contract the parties negotiate will almost certainly stipulate the conditions under which a dismissal may occur and the reasons for which a dismissal may be made. In governmental employment, at all levels, statutes or regulatory rules likely govern the relationship; here, too, union contracts may supplement the statute. Still other legal restraints may exist, as where the courts have fashioned protection for the employee. For example, in academic employment, those having tenure are not subject to "employment-at-will" concepts. Again, in individual situations the parties themselves may contractually agree on reasons and conditions for dismissal, thereby replacing the common law rule with their contract. The federal constitution and federal statutes also limit the unrestrained application of "employment-at-will". Discharging an employee because of race, creed or color, for example, is forbidden. Clearly, exceptions to employment-at-will abound; indeed the very existence of these has likely helped generate the pressures which are altering or abolishing the traditional rule. Still, vast numbers of employees are in employment situations which are traditionally "at will", and it is on this type of employment that this look at the law is focused.

The "employment-at-will" doctrine is based on a belief or presumption that in the long run society benefits from the freedom of either party to terminate the employment relationship. More specifically, it can be attributed to a laissez-faire philosophy, a belief in freedom of contract (or

---

About the author:

James M. Peterson, J.D., is Professor of Business Law at the School of Business, The University of South Dakota, Vermillion, South Dakota.

no contract, perhaps), a legal view of the employment relationship as a series of continuing offers and continuing acceptances, and a presumption that the doctrine makes economic sense. Whether such nations are supported by credible evidence is an open question; courts sometimes make presumptions or pronouncements which have little factual underpinning.

Good, bad or indifferent, the doctrine is under heavy assault. Principally, the assault today is being made in the courts.

Application of the traditional "at will" rule can be illustrated by the following case which is typical of the way the law has in the past viewed the rights and responsibilities of the parties. The plaintiff alleged that he was discharged by the defendant's assistant manager because plaintiff's wife had rejected advances by the assistant manager. A spirit of revenge apparently motivated the assistant manager, who reported to the employer that the plaintiff's work was unsatisfactory. The plaintiff was then discharged, and, despite his objections, the discharge was not revoked. He sued for damages for wrongful discharge. The trial court held for the employer. On appeal the Supreme Court of Alabama held that the employer had a legal right to discharge the employee at any time. Further, the court stated that, "If one does an act which is legal in itself and violates no right of another, the fact that this rightful act is done from bad motives or with bad intent toward the person so injured thereby does not give the latter a right of action against the former." Comerford vs. International Harvester Co. 178 S. 894 1938 Ala. In short, the plaintiff had no right to a job, so the motive for discharging him was irrelevant.

The Comerford case is not unique; indeed, it is typical of the traditional judicial attitude toward plaintiffs who were employed "at will". An employee could be fired for cause or for no cause; similarly an employee could quit for any reason or no reason. Even the U.S. Supreme Court has recognized "employment at will" as the law of the land. (Whether that court would entertain the same view today is by no means certain.) The courts, of course, have fashioned a number of exceptions to the doctrine and are busily fashioning new ones.

What are these court-created exceptions? What rationale underlies them? How do the courts circumvent the traditional rule? With fifty state courts and the federal courts rendering decisions in this area, it is not surprising to find a variety of exceptions, differing rationales and a range of willingness to find a way around the numerous precedents embodying the traditonal rule. (One might well wonder if, at times, courts are vying with one another in devising exceptions to the doctrine of employment-at-will.) There follows a look at a number of the theories courts have employed in cases where the doctrine of "employment-at-will" has not been applied.

One of the more novel approaches to the problem of an allegedly wrongful termination of employment is to base the plaintiff's claim for relief on RICO, the Racketeer Influenced and Corrupt Organization Act, a federal statute fairly recently enacted to combat criminals who enter legitimate business and then seek to use the legitimate enterprise to mask the criminals' illegal activities or to provide a vehicle for the legitimate employment of ill-gotten gains. How does RICO bear on employment-at-will? The theory is that if an employer uses the mails to make an offer of employment, hires the prospect and later fires him, the employer has used the mails to defraud. Since RICO proscribes such a use of the mails, the employers' conduct is violative of the statute and "employment-at-will" concepts do not apply. (One might well question such a judicial interpretation and application of the statute, to say nothing of the way the word "fraud" is construed.) What makes the RICO route attractive is the possibility of a treble damages "jackpot" if the plaintiff be successful.

On a less exotic note, courts have in a number of cases held employers liable for wrongful discharge where the employee was discharged in violation of some established public policy. A Californian fired for disobeying an order from his employer to lie on the witness stand was permitted to recover from the employer because California had a specific public policy aimed at encouraging witnesses to speak the truth. Petermann vs. International Brotherhood of Teamsters, Local 396, 344 P2d 25 Cal. 1959. The employer's act obviously conflicted with public policy. On a similar note, most states, by statute or otherwise, forbid employers from discharging employees because the employee is called to serve on a jury or because an employee has made claim under a workers compensation statute. The wrongfulness of a discharge for such reasons is obvious.

In the area of public policy, no court has surpassed that of New Hampshire which, without discussion or an adduction of evidence, simply declared that "a termination by the employer of a contract of employment at will which is motivated by bad faith or malice or based on retaliation is not in the best interest of the economic system or the public good and constitutes a breach of the employment contract." Monge v. Beebe Rubber Co., 316 Ad549. The New Hampshire case differs from those mentioned earlier in that the New Hampshire court discovered (or created) a public policy "on the spot". There is great merit in the contention that such sweeping determinations of public policy are best made in the legislature, and the state of New York, at least, has so held. Murphy vs. American Home Products, 448 N.E.2d 86 1983.

In circumventing the traditional rule, other courts have repaired to long-established general principles of contract law. Implicit in every contract is a judicially created presumption of good faith and fair dealing, or as the courts put it, the promise of such good faith and fair dealing is implied. Few could quarrel with such a conclusion, and if the facts indicated a lack of good faith and fair dealing (or either of them), the discharge is today likely to be deemed wrongful. For example, an employer hired a salesman and agreed to pay him on a salary-plus-commission basis. When it appeared that the salesman was about to land a $5,000,000.00 order, he was fired. The employment was "at will", but under these circumstances the courts said the employer acted in bad faith and was therefore liable to the salesman for the reasonable value of his services rendered in connection with the $5,000,000.00 order. Fortune vs. National Cash Register Company, 364 N.E. 2d 1251 Mass. 1977.

Yet another class of cases involve situations where the courts have engrafted onto the employer-employee contract such things as employee handbooks, personnel manuals, statements made in interviews for the position, or company policies, written or otherwise. What this approach amounts to is an incorporation of these sorts of things into the contract between employer and employee. Thus, if an employee be discharged for a reason not stated

in a personnel manual, a court could view this as a breach of contract and thus a wrongful discharge.

That, in fact is what happened in a South Dakota case. In Osterkamp vs. Alkota Manufacturing, Incorporated, 332 N.W.2d 275 1983, the defendant-employer gave the plaintiff-employee a handbook enumerating a number of rules the violation of which was grounds for disciplinary action. The plaintiff was discharged for disloyalty. As disloyalty was not among the rules listed, the discharge was considered to be wrongful. (One might well wonder why the court did not consider the requirements of loyalty an implied condition of employment, especially in light of the long-established and often-reiterated rule that loyalty is the principal obligation of an employee to his employer.)

Yet another theory upon which the discharged employee might proceed is that of outrageous conduct by the employer, which causes severe emotional distress to another. Should the circumstances of a discharge be especially egregious, a jury might well find the offending employer liable.

The foregoing theories of employer liability do not constitute all of the possible bases of employer liability. They do, however, indicate the extent of the change in the law and the willingness of today's courts to consider a wide range of theories via which an assault on the traditional rule may be launched.

Courts do not operate in a vacuum, and it is altogether likely that the thrust of today's decisions reflect public perception of what is fair or not fair in the realm of discharge of an employee. One need not be a particularly astute observer to conclude that there is a marked shift toward requiring some sort of "just cause" for dismissal. While it is too early to predict the utter demise of "employment-at-will", little doubt can exist that there has been severe erosion of the rule.

In reviewing the legal changes occuring in employment-at-will situations, it is interesting to note that almost no mention whatsoever is made of the other side of the coin--the rights of an employer against an employee who quits without notice and without cause. One need not really wonder at how the courts would deal with such situations. It is altogether unlikely that the employee would incur any liability.

In the event of suit by a discharged employee, the plaintiff will usually seek damages. If the plaintiff's case be based upon a contract theory, lost wages will be the principal compensation sought, though any damage emanating from the breach will be claimed. This could include the value of fringe benefits, commissions or other possible compensation beyond the salary itself. Because of the problems in enforcement, courts will not often order the employer to reemploy the plaintiff, but such action is possible.

If the suit be based on a tort theory, the potential loss is greater since damages claimed will include not only lost wages but also the "pain and suffering" sort of claims. Punitive damages, too, may be claimed. Even if the employer prevails, he will have had to bear the not inconsiderable expense of litigating the issue.

How may an employer avoid, or a least reduce, the risk of suit by a terminated employee and, if sued, mount the best defense possible? At the very outset employers must be most careful in their hiring practices. Prospective employees should be advised clearly that the employer may dismiss them at any time, with or without cause, if that be the employer's desire. If job application blanks are used, they should state in plain language whatever discharge policy the employer follows. By inserting this information in the job application blank and having the applicant sign the application, it makes it difficult for the applicant to contend his employment is of a nature other than that indicated in the application.

In addition to setting forth the employer's policy in the application, the person doing the hiring should be most careful not to make contrary statements in the job interview since a court might construe such contrary statements against the employer. Nor should an interviewer make any statements down-grading or disparaging the language in the application. Make sure that the applicant reads and signs the application. Do not tell the applicant that reading and signing are "just formalities", and by all means do not misrepresent the contents of the application. Informal, casual or off-hand comments about job tenure ("we never fire anyone", e.g.) could be construed against the employer. Any employer, of course, must weigh the wisdom of discouraging prospective employees by this rather blunt, even adversarial approach.

An employer should also make sure that personnel policies conform to the policy set forth in the job application blank. Employee handbooks and the like ought to be consistent in their statements of policy lest ambiguities be construed against the employer. This is particularly important in South Dakota where the Supreme Court has construed the employees' handbook as part of the contract.

Insofar as handbooks and personnel policies are concerned, an employer should give real thought as to the wisdom of enumerating reasons for discharge. An otherwise legitimate reason for discharge, if not listed, might well not be recognized by the court as a valid reason for discharge. In the Osterkamp case, the South Dakota Supreme Court refused to recognize disloyalty as a legitimate reason for discharge because disloyalty was not listed as a reason for disciplinary action in the employees' handbook.

In light of the changes occurring in this area of the law, employers must perforce review their hiring and firing practices so as better to avoid problems stemming from wrongful--or allegedly wrongful--discharge. The nature of such a review is beyond the scope of this brief look at the law.

Changes in the law have inevitable consequences, some foreseeable, others not. Should the law shift to a "just cause" basis for dismissal, it is almost certain to lead to the keeping of rather detailed dossiers on individual employees. The employer who knows "just cause" is required for discharge is more than likely going to document these facts which might justify termination. It takes little imagination to visualize the nature and consequences of this type of recordkeeping. It certainly is fair to question whether such evils as may flow from the traditional "employment-at-will" rule are of a magnitude to justify the risk of engendering practices which may well be more detrimental to an individual than is the existing state of affairs. Yet another aspect of a change in the law is worth considering. What effect is such a change to have on really small employers? Is the service station operator with one or two employees to be subjected to the same rules as an employer with a large number of employees? Again, the costs of changing the law should be assessed beforehand. It may be that changing the law is a desirable move, but caution and consideration of the consequences should certainly be the watchword.

SOUTH DAKOTA INCOME AND EMPLOYMENT

TOTAL PERSONAL INCOME
United States, Plains Region and States
Third Quarter 1984-Third Quarter 1985
(Millions of Dollars, Seasonally Adjusted at Annual Rates)

	1984		1985			% Change
	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	3rd Qtr. 1984 3rd Qtr. 1985
United States	3,057,274	3,112,603	3,159,817	3,190,683	3,211,584	5.0
Plains States	221,788	226,538	228,046	232,172	228,283	2.9
Iowa	35,055	36,189	36,389	37,931	35,225	0.5
Kansas	32,622	33,296	33,284	33,540	33,570	2.9
Minnesota	55,669	57,003	57,630	58,482	58,249	4.6
Missouri	61,598	62,542	63,378	64,144	64,503	4.7
Nebraska	20,197	20,406	20,697	21,579	20,416	1.1
North Dakota	8,700	8,926	8,608	8,404	8,531	-1.9
South Dakota	7,947	8,177	8,061	8,091	7,790	-2.0

Note: Detail may not add to totals because of rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

SOUTH DAKOTA NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
Dec. 1984 and Dec. 1985
(In Thousands)

				Average Weekly Hours		Average Hourly Earnings	
	Dec. 1984	Dec. 1985	% Change	Dec. 1984	Dec. 1985	Dec. 1984	Dec. 1985
Total Employment	244.1	243.6	-0.2				
Mining	2.5	2.2	-12.0				
Construction	8.3	8.6	3.6				
Manufacturing	28.5	25.6	-10.2	43.4	42.8	$7.39	$7.69
Durable Goods	15.7	12.8	-18.5	42.8	42.3	$7.26	$7.39
Fabricated Metals & Mach.	10.3	7.5	-27.2				
Nondurable Goods	12.9	12.8	-0.8	44.3	43.2	$7.56	$8.01
Food & Kindred Products	7.6	7.9	3.9				
Paper, Printing & Publishing	2.7	2.7	0.0				
Transportation & Pub. Utilities	12.2	12.6	3.3				
Transportation	7.3	7.6	4.1				
Communication & Pub. Utilities	4.9	5.0	2.0				
Wholesale & Retail Trade	64.3	64.4	0.2				
Wholesale Trade	16.0	15.7	-1.9				
Durable Goods	6.9	6.6	-4.3				
Nondurable Goods	9.2	9.0	-2.2				
Retail Trade	48.2	48.8	1.2				
Finance, Insurance & Real Estate	13.3	13.4	0.8				
Services	57.4	58.3	1.6				
Hotels, Amuse., Pers. & Business	14.0	14.1	0.7				
Medical & Health	22.2	22.7	2.3				
Educational, Membership & Social	17.9	18.1	1.1				
Government	57.6	58.6	1.7				
Federal	10.4	10.6	1.9				
State	16.2	16.4	1.2				
State Education	8.2	8.1	-1.2				
Local	31.0	31.6	1.9				
Local Education	17.9	18.2	1.7				

Source: South Dakota Department of Labor

SOUTH DAKOTA AGRICULTURAL INDICATORS

SOUTH DAKOTA CROP PRODUCTION
SUMMARY, 1983, 1984, and 1985
(As of Jan. 1, 1986)
(000's Bushels)

	Production		
	1983	1984	1985
Corn-grain	104,410	186,260	252,000
Sorghum-grain	13,630	18,565	15,000
Oats	79,200	86,800	79,520
Barley	23,100	30,345	32,400
Soybeans	26,103	31,280	40,640
Flaxseed	1,365	1,494	1,335
Durum Wheat	2,079	3,128	2,635
Other Spring Wheat	36,400	61,710	64,500
All Sunflowers 1/	450,450	633,480	609,940
All Hay 2/	7,592	8,083	4,830

1/ Production is in 1,000 pounds.
2/ Production is in 1,000 tons.

Source: South Dakota Crop & Livestock Reporter.

PRICES RECEIVED BY FARMERS FOR COMMODITIES SOLD--SOUTH DAKOTA
Dec. 1984 and Dec. 1985

Commodity and Unit		Base Period Price 1910-1914 Average	Dec. 1984	Dec. 1985	Dec. 1985 Price as % of Base	Dec. 1985 Price Above or Below Dec. 1984
Wheat	Bu.	0.85	3.38	3.54	416	4.7
Corn	Bu.	0.51	2.50	2.09	410	-16.4
Oats	Bu.	0.35	1.64	1.12	320	-31.7
Barley	Bu.	0 59	1.88	1.87	317	-0.5
Flaxseed	Bu.	1.68	6.04	4.93	293	-18.4
Milk, Whsl.	Cwt.	1.82	1/	1/	-	-
Eggs	Doz.	0.196	1/	1/	-	-
Cattle	Cwt.	5.24	55.50	50.80	969	-8.5
Calves	Cwt.	6.08	66.90	61.40	1010	-8.2
Hogs	Cwt.	7.07	48.20	43.80	620	-9.1
Sheep	Cwt.	4.24	19.70	25.10	592	27.4
Lambs	Cwt.	5.66	61.80	63.10	1115	2.1
Wool	Lb.	0.178	0.65	0.55	309	-15.4

1/ Season average price only.

Source: South Dakota Crop & Livestock Reporter.

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS
(% Change Like Period Previous Yr.)

City	Taxable Sales/1 Total	Retail	Services	Telephone Services/2	Housing Starts/3	Postal Indicator/4	Employment*2
Aberdeen	4.1	2.6	6.8	2.2	76.0	-5.2	-1.4
Belle Fourche	-4.3	-5.0	7.1	-1.5	-45.8		-3.6
Brookings	-1.2	1.3	-3.5	--	-77.6	11.8	0.6
Canton	-1.2	0.1	-4.7	0.7			1.9
Chamberlain	1.1	2.8	-1.3	0.2	24.3		9.6
Deadwood	0.0	-0.2	1.3	0.1	-10.0		0.7
De Smet	-0.7	-2.7	11.1	-0.6			-2.1
Elk Point	-5.8	-5.4	-9.7	0.2			-7.3
Hot Springs	-1.9	1.9	-15.6	NA	-69.4		-7.5
Huron	0.0	-4.5	7.7	0.2	2.3	-0.7	-3.3
Lead	-9.6	-7.6	0.0	-2.7			0.7
Madison	-3.1	1.4	3.3	-0.5	-37.9		-1.7
Milbank	1.7	0.1	-7.5	-1.6	168.4		-1.9
Mitchell	1.1	-0.8	9.0	0.0	-55.1	4.8	-1.3
Mobridge	0.5	-2.1	12.2	0.6			1.2
Pierre	3.0	-1.4	7.9	1.7	-21.6	8.9	5.3
Rapid City	4.5	2.8	4.7	3.1	39.1	1.7	-5.4
Sioux Falls	3.2	2.7	11.5	3.0	-42.3	4.7	4.4
Spearfish	4.4	0.6	27.9	NA	-19.5		0.7
Sturgis	0.8	3.5	-6.0	1.0			8.9
Vermillion	-2.4	-4.7	12.7	-4.1	24.4		9.7
Watertown	2.9	2.6	10.2	3.1	16.2	19.8	8.1
Winner	-2.2	-2.0	-0.8	0.0			10.0
Yankton	-0.7	-0.4	-0.4	-0.1	-74.6	-3.4	-0.5

*Based on County Data

1/ Percentage change for Jan.-Dec. 1984 and 1985.

2/ Percentage change for Dec. 1984 and 1985. Telephone data are for the number of access lines in service.

3/ Percentage change for Jan.-Dec. of 1984 and 1985. Data reported for housing represent the value of housing starts.

4/ Percentage change for the fourth quarter of 1984 and 1985. Included in postal indicators are: postage stock sales, postage stamped envelopes, postage meters for customers, meter imprint postage (3rd class regular), and second class postage.

Address Correction Requested

Bulk Rate
Non-Profit Organ.
U.S. Postage
Vermillion, SD 57069
Permit No. 14

SOUTH DAKOTA Business Review

BUSINESS RESEARCH BUREAU
SCHOOL OF BUSINESS - USD
414 E. CLARK STREET
VERMILLION, SOUTH DAKOTA 57069

Published by Business Research Bureau, The University of South Dakota

CONSUMER PRICE INDEX

United States
Jan.-Dec. 1985
(1967=100)

Item	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	% Change Jan.-Dec.
All Items	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	3.6
Food & beverages	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	2.1
Food	307.3	309.5	309.7	309.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2	1.9
Alcoholic beverages	224.3	225.8	226.5	226.7	227.7	227.8	277.8	228.9	229.3	236.4	236.2	236.2	5.3
Housing	342.0	343.6	344.7	345.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8	4.0
Shelter	371.2	373.3	374.3	375.9	379.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3	5.7
Renters' costs	111.8	112.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	5.8
Homeowners' costs	110.0	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3	5.7
Fuel & other utilities	387.2	386.5	388.2	388.7	393.0	399.4	399.9	398.9	400.5	395.6	392.1	393.3	1.6
Fuel	481.2	480.8	482.2	483.0	490.0	497.7	497.3	494.4	496.8	488.4	481.5	483.6	0.5
Fuel oil, coal & btld. gas	621.6	623.4	620.8	623.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3	5.7
Gas (piped) & electricity	444.1	443.3	445.5	445.9	454.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	-0.9
Other util. & Pub. Services	235.3	234.3	236.3	236.4	236.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8	4.5
Household furnishing	244.2	246.2	246.9	247.9	247.6	247.1	246.5	247.0	247.1	248.4	248.9	248.8	1.9
Apparel & upkeep	199.8	201.8	205.3	205.9	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0	4.6
Transportation	314.7	314.3	316.7	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0	3.0
Private transportation	309.1	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.8	2.8
Public transportation	394.5	394.4	397.3	398.0	398.4	399.3	402.4	403.7	408.0	411.5	412.8	412.9	4.7
Medical care	391.1	393.8	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	6.0
Entertainment	261.0	261.3	262.2	263.3	263.6	264.8	265.7	265.7	266.8	268.4	269.0	268.3	2.8
Other goods and services	319.1	320.5	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	5.5

*Consumer Price Index for all Urban Consumers

Source: Bureau of Labor Statistics, U.S. Dept. of Labor

1400 printed at an estimated cost of 0.4955 each for educational purposes.

SOUTH DAKOTA

BRB

Business Research Bureau
The University of South Dakota
414 East Clark Street
Vermillion, South Dakota 57069

Telephone: (605) 677-5287

SOUTH DAKOTA ECONOMETRIC MODEL
(Business Research Bureau - University of South Dakota)

SELECTED ECONOMIC INDICATORS (S.D. AND U.S.)

DESCRIPTION	1984Q3	1984Q4	1985Q1	1985Q2	1985Q3	1985Q4	1986Q1	1986Q2	1986Q3	1986Q4	1987Q1	1987Q2	ANNUAL DATA 1984	1985	1986
	ACTUAL						FORECAST								
SOUTH DAKOTA INDICATORS															
PERSONAL INCOME (MILLIONS)	$7,947	$8,177	$8,069	$8,123	$8,061	$8,110	$8,276	$8,482	$8,697	$8,886	$9,038	$9,104	$7,813	$8,091	$8,585
(% CHANGE)	22.2	11.6	-5.3	2.7	-3.0	2.4	8.2	10.0	10.1	8.7	6.8	2.9	14.2	3.6	6.1
PERSONAL INCOME (1972 $'S)	$3,586	$3,670	$3,593	$3,591	$3,543	$3,535	$3,567	$3,620	$3,680	$3,723	$3,752	$3,746	$3,544	$3,566	$3,648
(% CHANGE)	17.8	9.2	-8.4	-0.2	-5.3	-0.9	3.6	6.0	6.6	4.6	3.1	-0.6	10.6	0.6	2.3
NONFARM PERS. INC. (MILLIONS)	$6,993	$7,064	$7,154	$7,204	$7,310	$7,422	$7,535	$7,651	$7,784	$7,921	$8,049	$8,159	$6,869	$7,273	$7,723
(% CHANGE)	11.8	4.1	5.1	2.8	5.9	6.1	6.1	6.2	6.9	7.0	6.5	5.5	9.1	5.9	6.2
NONFARM PERS. INC. (1972 $'S)	$3,157	$3,171	$3,185	$3,185	$3,213	$3,235	$3,248	$3,266	$3,294	$3,318	$3,341	$3,358	$3,117	$3,205	$3,281
(% CHANGE)	7.6	1.7	1.8	-0.1	3.6	2.8	1.5	2.2	3.5	2.9	2.8	2.0	5.8	2.8	2.4
WAGES & SALARIES (MILLIONS)	$3,568	$3,581	$3,613	$3,652	$3,683	$3,736	$3,767	$3,812	$3,874	$3,940	$3,977	$4,023	$3,508	$3,671	$3,848
(% CHANGE)	11.9	1.5	3.6	4.3	3.4	5.8	3.2	4.8	6.5	6.8	3.8	4.6	7.1	4.7	4.8
WAGES AND SALARIES (1972 $'S)	$1,611	$1,607	$1,609	$1,615	$1,619	$1,629	$1,624	$1,627	$1,639	$1,651	$1,651	$1,656	$1,591	$1,618	$1,635
(% CHANGE)	7.6	-0.9	0.3	1.3	1.1	2.4	-1.3	0.8	3.1	2.7	0.1	1.1	3.8	1.6	1.1
FARM INCOME (MILLIONS)	$954	$1,113	$914	$918	$751	$688	$741	$831	$913	$965	$989	$944	$944	$818	$863
(% CHANGE)	117.1	66.7	-71.5	1.8	-72.7	-33.5	30.4	48.8	39.6	22.8	9.8	-18.1	71.9	-13.3	5.5
FARM INCOME (1972 $'S)	$431	$500	$407	$406	$330	$300	$319	$355	$386	$404	$411	$389	$428	$361	$366
(% CHANGE)	111.7	63.9	-74.2	-1.1	-74.6	-36.5	25.6	44.4	35.8	18.6	6.1	-21.4	66.5	-15.7	1.5
TOTAL EMPLOYMENT (THOUSANDS)	344.7	327.5	315.8	338.2	345.5	323.3	309.0	336.5	344.6	324.2	310.5	338.3	331.0	330.2	328.6
(% CHANGE YEAR-OVER-YEAR)	3.8	2.3	1.6	-0.8	-0.3	-1.3	-2.2	-0.5	-0.0	0.3	0.5	0.5	4.7	-0.2	-0.5
NONAG. EMPLOYMENT (THOUSANDS)	246.8	246.3	238.9	247.3	246.2	245.4	238.3	249.5	251.4	248.6	241.3	252.3	244.6	244.5	247.0
(% CHANGE YEAR-OVER-YEAR)	2.8	2.0	0.9	-0.6	-0.2	-0.4	-0.2	0.9	1.3	1.3	1.3	1.1	4.0	-0.1	1.0
MANUFACTURING EMPLOYMENT	29.1	28.9	26.9	26.2	26.0	26.0	25.3	26.2	26.9	27.3	26.5	27.3	28.6	26.3	26.4
(% CHANGE YEAR-OVER-YEAR)	8.8	4.8	-2.4	-9.0	-10.7	-10.0	-6.0	-0.0	3.3	4.9	4.9	4.2	10.3	-8.1	0.5
AUTO REGISTRATIONS	4,897	4,731	4,166	4,238	4,071	4,753	4,723	4,824	4,723	4,723	4,722	4,824	4,976	4,307	4,748
(% CHANGE YEAR-OVER-YEAR)	-0.1	8.1	-19.0	-17.4	-16.9	0.5	13.4	13.8	16.0	-0.6	0.0	0.0	10.6	-13.4	10.2
HOUSING STARTS	883	959	526	619	604	758	489	975	883	844	525	990	777	627	798
(% CHANGE YEAR-OVER-YEAR)	35.6	26.9	5.4	-19.4	-31.7	-20.9	-7.0	57.5	46.2	11.3	7.3	1.5	50.2	-19.4	27.3
RETAIL SALES	$2,729	$2,929	$2,362	$2,646	$2,797	$2,951	$2,592	$2,824	$2,862	$2,988	$2,616	$2,835	$2,684	$2,689	$2,817
(% CHANGE YEAR-OVER-YEAR)	6.9	2.4	0.5	-3.0	2.5	0.8	9.8	6.8	2.3	1.3	0.9	0.4	7.3	0.2	4.7
UNEMPLOYMENT RATE (%)	3.6	4.6	6.0	5.2	4.5	4.9	6.1	5.1	4.7	5.0	6.2	5.2	4.4	5.1	5.2
U.S. INDICATORS															
REAL GNP (1972 $'S)	$1,645	$1,662	$1,664	$1,671	$1,685	$1,701	$1,716	$1,729	$1,742	$1,754	$1,765	$1,777	$1,639	$1,680	$1,735
(% CHANGE)	1.6	4.2	0.3	1.9	3.2	3.9	3.5	3.1	2.9	2.6	2.6	2.6	6.8	2.5	3.3
GNP DEFLATOR (1972 = 100)	224.6	226.1	229.1	230.5	232.4	233.7	235.9	238.2	240.6	243.2	246.2	248.9	223.4	231.4	239.5
(% CHANGE)	1.0	2.7	5.3	2.6	3.3	2.2	3.8	3.9	4.0	4.3	4.9	4.4	3.8	3.6	3.5
PERS. CONS. DEF. (1972 = 100)	221.5	222.8	224.6	226.2	227.5	229.4	232.0	234.3	236.3	238.7	240.9	243.0	220.4	226.9	235.3
(% CHANGE)	4.2	2.3	3.2	2.8	2.3	3.3	4.5	4.0	3.4	4.1	3.7	3.5	3.2	3.0	3.7
CONS. PRICE INDEX (1967 = 100)	313.1	315.4	317.4	321.2	323.9	326.2	329.3	332.6	336.1	339.7	343.3	347.0	311.1	322.2	334.4
(% CHANGE)	4.3	2.9	2.6	4.8	3.3	2.8	3.8	4.0	4.2	4.3	4.2	4.3	4.3	3.6	3.8
UNEMPLOYMENT RATE (%)	7.3	7.2	7.3	7.3	7.3	7.1	7.1	7.1	7.0	7.0	7.0	7.0	7.5	7.3	7.1
TREASURY BILL RATE (91 DAY)	10.3	9.0	8.2	7.5	7.1	7.2	7.2	7.3	7.4	7.5	7.5	7.5	9.6	7.5	7.4

FORECAST DATE: January 1986 REV

An Equal Opportunity Employer

TAXABLE SALES
Counties and Selected Cities in South Dakota
Jan.-Dec., 1984 and 1985
(In $000's)

REGION I

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Brookings	110,216	108,918	-1.2
Brookings	101,313	100,075	-1.2
Elkton	2,294	2,131	-7.1
Volga	2,810	3,383	20.4
Clark	11,471	11,416	-0.5
Clark	8,904	8,805	-1.1
Codington	155,925	158,338	1.5
Watertown	149,098	153,452	2.9
Deuel	15,053	14,886	-1.1
Clear Lake	10,690	10,667	-0.2
Gary	1,159	1,064	-8.2
Toronto	1,971	1,958	-0.7
Grant	38,231	38,541	0.8
Big Stone C.	2,648	2,832	6.9
Milbank	33,032	33,603	1.7
Hamlin	12,513	12,202	-2.5
Bryant	2,494	2,749	10.2
Castlewood	1,319	1,356	-10.7
Estelline	3,355	3,160	-5.8
Hayti	2,731	2,420	-11.4
Kingsbury	20,460	20,499	0.2
Arlington	5,618	5,626	0.1
De Smet	8,567	8,507	-0.7
Lake Preston	3,204	3,354	4.7
Lake	45,411	44,037	-3.0
Madison	42,210	40,896	-3.1
Miner	8,971	8,975	.0
Howard	6,927	7,029	1.5
Moody	26,653	25,973	-2.6
Colman	15,420	15,329	-0.6
Flandreau	10,424	9,587	-8.0
TOTAL	444,903	443,784	-0.3

REGION II

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Clay	44,113	43,059	-2.4
Vermillion	39,157	38,234	-2.4
Lincoln	32,143	31,023	-3.5
Canton	12,350	12,200	-1.2
Lennox	7,531	6,995	-7.1
McCook	16,620	17,075	2.7
Bridgewater	2,410	2,371	-1.6
Canistota	2,031	1,972	-2.9
Salem	9,436	9,954	5.5
Minnehaha	899,664	927,442	3.1
Baltic	2,337	2,097	-10.3
Brandon	6,744	6,407	-5.0
Colton	2,677	2,541	-5.1
Dell Rapids	9,653	9,158	-5.1
Garretson	4,229	4,297	1.6
Hartford	2,280	2,357	3.4
Sioux Falls	844,985	872,261	3.2
Turner	22,507	21,495	-4.5
Centerville	3,275	3,130	-4.4
Marion	7,907	7,732	-2.2
Parker	3,957	3,793	-4.1
Union	29,937	27,563	-7.9
Alcester	6,864	7,265	5.8
Beresford	11,780	9,773	-17.0
Elk Point	6,158	5,801	-5.8
TOTAL	1,044,985	1,067,658	2.2

REGION III

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Aurora	10,712	10,886	1.6
Plankinton	6,689	6,782	1.4
Bon Homme	21,905	20,941	-4.4
Avon	4,427	4,163	-6.0
Scotland	4,101	3,846	-6.2
Springfield	2,820	2,906	3.0
Tabor	4,057	3,957	-2.5
Tyndall	6,241	5,813	-6.9
Brule	25,560	25,785	0.9
Chamberlain	20,541	20,776	1.1
Kimball	4,480	4,424	-1.3
Charles Mix	30,294	30,127	-0.6
Geddes	980	947	-4.1
Lake Andes	4,079	4,431	8.6
Platte	13,972	13,738	-1.7
Wagner	9,934	9,721	-2.1
Davison	124,979	125,944	0.8
Mitchell	122,169	123,469	1.1
Douglas	10,381	10,391	0.1
Armour	4,624	4,601	-0.5
Corsica	4,218	4,202	-0.4
Gregory	21,230	20,058	-5.5
Burke	5,305	4,864	-8.3
Gregory	11,780	10,235	-13.1
Hanson	5,076	4,977	-2.0
Alexandria	2,905	2,977	2.5
Emery	1,985	1,918	-3.4
Hutchinson	32,463	31,129	-4.1
Freeman	12,190	11,589	-5.0
Menno	4,569	4,499	-1.5
Parkston	10,626	10,234	-3.7
Tripp	3,431	3,048	-11.2
Jerauld	7,824	7,855	0.4
Wess. Sprgs.	6,924	6,966	0.6
Sanborn	5,894	5,528	-6.2
Woonsocket	3,950	3,973	0.6
Yankton	107,350	106,354	-0.9
Yankton	103,195	102,422	-0.7
TOTAL	403,668	399,978	-0.9

REGION IV

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Beadle	98,288	98,330	.0
Huron	92,624	92,619	.0
Brown	237,461	245,422	3.4
Aberdeen	221,589	230,589	4.1
Groton	6,558	6,500	-0.9
Day	24,339	23,863	-2.0
Bristol	1,635	1,511	-7.6
Mauboy	1,471	1,432	-2.7
Webster	19,126	18,724	-2.1
Edmunds	15,137	14,432	-4.7
Bowdle	3,257	3,006	-7.7
Hosmer	1,654	1,662	0.5
Ipswich	7,690	7,271	-5.4
Roscoe	2,185	2,100	-3.9
Faulk	8,300	8,266	-0.4
Faulkton	5,007	5,510	10.0
Hand	18,633	18,569	-0.3
Miller	16,631	16,733	0.6
McPherson	10,084	9,799	-2.8
Eureka	7,280	7,314	0.5
Leola	2,255	2,001	-11.3
Marshall	14,313	14,810	3.5
Britton	10,443	10,621	1.7
Roberts	27,830	27,593	-0.9
Sisseton	16,867	16,915	0.3
Wilmot	3,728	3,518	-5.6
Spink	25,209	25,231	0.1
Doland	1,212	1,163	-4.0
Redfield	20,799	21,075	1.3
TOTAL	479,603	486,314	1.4

REGION V

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Buffalo	260	223	-14.2
Campbell	5,570	5,925	6.4
Herreid	3,152	3,171	0.6
Pollock	1,925	2,306	19.8
Corson	3,299	3,394	2.9
McIntosh	1,058	1,033	-2.4
McLaughlin	1,104	1,146	3.8
Dewey	12,723	13,044	2.5
Eagle Butte	7,999	8,523	6.6
Isabel	1,406	1,417	0.8
Timber Lake	2,288	2,216	-3.1
Haakon	12,358	11,399	-7.8
Philip	10,877	10,165	-6.5
Hughes	95,954	98,646	2.8
Blunt	2,964	2,894	-2.4
Pierre	92,355	95,099	3.0
Hyde	8,131	8,205	0.9
Highmore	7,986	8,023	0.5
Jones	11,591	11,739	1.3
Murdo	10,768	10,920	1.4
Lyman	12,767	13,291	4.1
Presho	3,431	3,674	7.1
Mellette	2,706	2,904	7.3
White River	2,299	2,474	7.6
Perkins	19,113	19,192	0.4
Lemmon	15,058	14,991	-0.4
Potter	15,852	15,487	-2.3
Gettysburg	11,462	11,153	-2.7
Hoven	3,310	3,477	-0.9
Stanley	12,127	12,453	2.7
Ft. Pierre	11,960	12,298	2.8
Sully	6,084	6,418	5.5
Onida	5,313	5,477	3.1
Tripp	35,010	34,228	-2.2
Winner	33,428	32,709	-2.2
Todd	9,557	9,186	-3.9
Mission	8,450	7,997	-5.4
Walworth	39,128	39,148	0.1
Mobridge	27,795	27,928	0.5
Selby	7,181	7,058	-1.7
Ziebach	2,217	2,081	-6.1
Dupree	2,131	1,961	-8.0
TOTAL	304,448	306,961	0.8

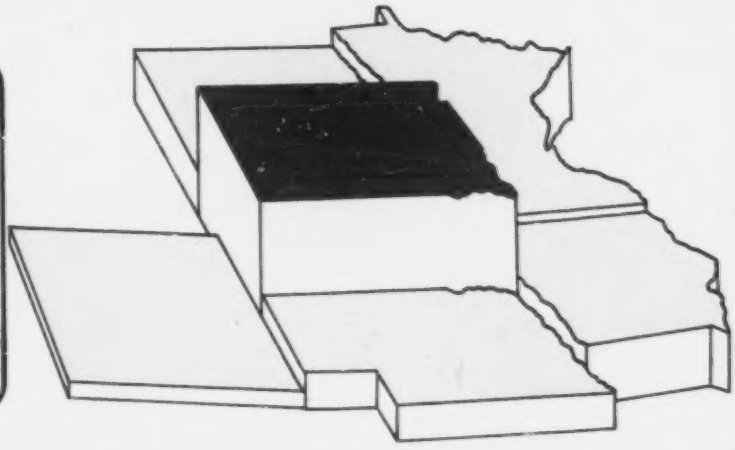
REGION VI

	Jan.-Dec. 1984	Jan.-Dec. 1985	% Change
Bennett	10,762	10,639	-1.1
Martin	10,586	10,487	-0.9
Butte	39,110	37,851	-3.2
Belle Fche.	30,559	29,258	-4.3
Newell	5,065	5,231	3.3
Custer	27,838	27,838	0.0
Custer	26,248	26,217	-0.1
Fall River	28,389	27,351	-3.7
Edgemont	5,192	4,740	-8.7
Hot Sprgs.	21,677	21,270	-1.9
Harding	3,945	3,864	-2.1
Buffalo	3,421	3,377	-1.3
Jackson	8,373	8,453	1.0
Kadoka	6,339	6,340	.0
Lawrence	100,096	100,216	0.1
Deadwood	18,934	18,927	.0
Lead	22,995	20,797	-9.6
Spearfish	42,889	44,793	4.4
Whitewood	2,519	2,820	11.9
Meade	45,190	45,108	-0.2
Faith	5,203	5,188	-0.3
Sturgis	32,428	32,684	0.8
Pennington	394,955	424,250	4.6
Rapid City	532,951	556,879	4.5
Wall	22,499	25,587	13.7
Shannon	3,787	4,273	12.8
Pine Ridge	500	657	31.4
Washabaugh	497	329	-33.8
TOTAL	864,950	890,171	2.9
STATE TOTAL	3,542,556	3,594,867	1.5

7/21/86
U8595-1

SOUTH DAKOTA
Business Review

JUNE 1986
Vol.XLIV,No.4



Published by Business Research Bureau, The University of South Dakota

General Indicators	Latest Quarter	SOUTH DAKOTA Latest Quarter	SOUTH DAKOTA Year Ago	SOUTH DAKOTA Percent Change	UNITED STATES Latest Quarter	UNITED STATES Year Ago	UNITED STATES Percent Change
Personal Income ($ Mil.)	1985-4	8,134	8,008	1.6	3,268,059	3,107,659	5.2
Farm Prop. Income ($ Mil.)	1985-4	725	842	-13.9	31,544	30,044	5.0
Non-ag Employment (Thous.)	1986-1	242	242	0.0	99,662	96,640	3.1
Unemployment Rate (%)	1986-1	5.4	6.0	-10.0	7.5	7.8	-3.9
Total Employment (Thous.)	1986-1	315	313	0.6	107,096	104,934	2.1

Note: All U.S. data seasonally adjusted except for the unemployment rate and total employment. For South Dakota only personal income and farm proprietors' income are seasonally adjusted.

ECONOMIC IMPACTS
Associated with the Vacation Travel Industry in South Dakota

By Michael K. Madden
Professor of Economics

This is a condensed version of a more complete document entitled *Economic and Fiscal Impacts Associated with the Vacation Travel Industry in South Dakota.* This document concerns the travel industry as those in the travel industry know it to be. The study includes economic activity associated with hunting, fishing, skiing, snowmobiling, sight-seeing, hiking, boating, camping, conventioning and all other travel-oriented activities enjoyed during their respective seasons in South Dakota by residents and non-residents alike. This writing is somewhat unique in that a conscious effort has been made to measure only those impacts which belong correctly to the vacation travel industry. Impacts measured here do not include overnight travel by business field representatives incurred while performing their jobs. It doesn't include the impact of a Wessington family taking a routine shopping trip to Sioux Falls. And it doesn't include the travel expenditures incurred by a Billings, Mt. resident as he drives through South Dakota on his

Michael K. Madden, Ph.D., is Professor of Economics, AFIT Program, Minuteman Graduate Center, Box Elder, SD.

Continued on page 4

TABLE OF CONTENTS

Economic Impacts Associated with the Vacation Travel Industry in South Dakota.....1
Michael K. Madden

Trend of Business.....2

School of Business Internship Program and Employment Statistics.....7
Gene B. Iverson

Personal Income Update.....8
Nancy Nelson

General Economic Tables.....9,10,11,12

SOUTH DAKOTA BUSINESS REVIEW

JUNE 1986 **Vol.XLIV,No.4**

Business Research Bureau
School of Business
The University of South Dakota
605-677-5287

D.E. Clement, Dean, School of Business

ADVISORY COUNCIL
Robert ~~G. Atkins,~~ John Morrell & Co., Sioux Falls
Ben Blumenthal, Blumenthal's, Rapid City
O. Robert Brancel, Bank West, Pierre
Donald E. Culhane, Culhane's Dairy, Mitchell
Kent E. Edson, Dacotah Bank Holding Company, Aberdeen
Richard C. Erickson, Rushmore Mutual Life Insur. Co., Rapid City
Robert H. Frei, Commercial State Bank, Wagner
Kenneth B. Jones, Yankton Drug Co., Yankton
C.P. Moore, Norwest Bank, Sioux Falls
Rudolph A. Nef, Valley Queen Cheese Factory, Inc., Milbank
Jack G. Rentschler, Rentschler's Standard Truck Plaza, Sioux Falls
Jack Riordan, Mountain Company, Inc., Keystone
Walter J. Schramm, Schramm Furniture, Winner
Frank E. Short, CPA, Rapid City

BUSINESS RESEARCH BUREAU
Donald W. Lewis, Director
Randall M. Stuefen, Associate Director
Nancy Nelson, Economic Analyst
Bill Powell, Systems Analyst
DeVee Dykstra, State Data Center Director
Nancy King, Statistical Clerk
Mary Bartels, Administrative Secretary
Ruby Plate, Data Base Administrator
Don Greenfield, SBDC Director
Dick Barta, BIA Program Director
Anne Shank-Volk, SBDC Area Director
John Huminski, SD International Export Director
Marie Tyburec, Staff Assistant
Mary Parry, Staff Assistant

Subscription price of $6 per year. Bulk postage paid to Vermillion, South Dakota 57069. Published bi-monthly in January, March, May, July, September, and November.

POSTMASTER send address changes to:
Business Research Bureau
School of Business-USD
414 East Clark
Vermillion, SD 57069-2390

The opinions expressed by our contributors may not be those of the Business Research Bureau, the School of Business, or the University of South Dakota. **The South Dakota Data Supplement** attempts to stimulate and inform but not to convert readers to any particular viewpoint.

Any material in the **Supplement** may be reproduced if credit is given.

TREND OF BUSINESS

Economic activity in South Dakota as measured by selected indicators of business activity showed some growth in the employment sector. Construction employment increased nearly 3 percent in the first quarter of 1986 compared to a year ago. This indicator dipped slightly (-1.5%) in the first quarter of 1986 compared to the previous quarter. For this same period, nonfarm employment was down slightly. The Business Research Bureau's econometric model forecasts an increase of 1.2 percent in 1986 compared to 1985 for nonfarm employment. South Dakota's unemployment rate fell from a seasonally adjusted rate of 5.1 percent in the fourth quarter of 1985 to 4.6 percent in the first quarter of 1986. The outlook for 1986 is favorable for this indicator with a predicted drop of nearly 6 percent from last year.

South Dakota's personal income rose nearly 4 percent in the fourth quarter of 1985 compared to the previous quarter. However, compared to a year ago, it fell slightly--a reflection of South Dakota's depressed farm economy.

Sales of new cars rose slightly in the first quarter of 1986 compared to the previous quarter. The outlook for 1986 is for continued growth with a projected increase of nearly 9 percent. New truck sales have not been as strong as car sales-falling 11.3 percent in the first quarter of 1986 compared to the previous quarter.

Comparisons of these economic indicators are included in the following table:

South Dakota Business Indices
1984-1985
Seasonally Adjusted (1982=100)

	1984		1985			1986
	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter
Personal Income	112.8	110.4	111.1	106.9	111.0	---
Farm Proprietors Income	213.9	158.5	170.3	92.8	178.4	---
Nonfarm Employment	107.0	105.3	107.4	107.0	106.0	105.3
Construction Employment	116.0	117.0	118.1	118.9	122.0	120.2
Unemployment Rate (%)	4.8	5.1	5.3	5.3	5.1	4.6
New Cars	110.2	111.4	108.2	107.5	101.2	104.5
New Trucks	137.8	122.1	109.7	130.7	127.6	113.1

SOUTH DAKOTA DATA SUPPLEMENT

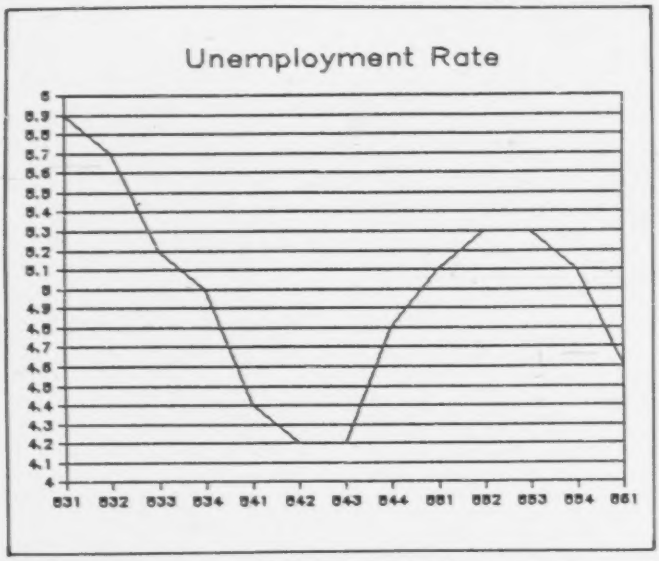
The May 1986 **South Dakota Data Suppplement** was recently released by the Business Research Bureau. This publication, which contains the most current sales tax data for South Dakota counties and cities, is published six times a year. To receive the **Supplement** on a regular basis, send your name and address along with $6.00 to the:

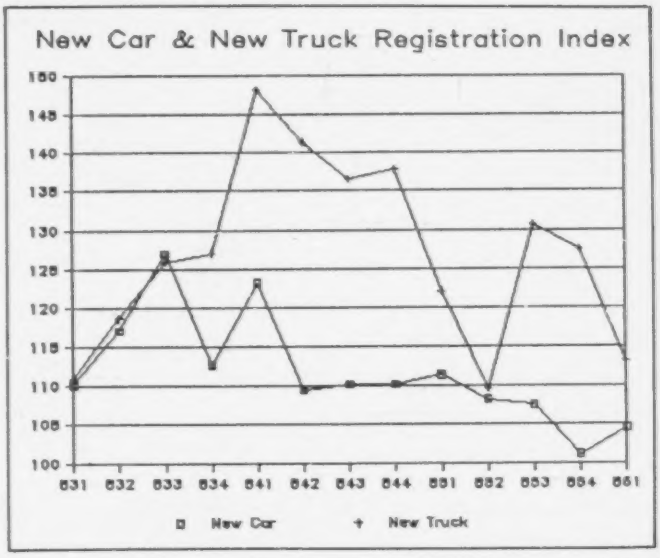
Business Research Bureau
School of Business - USD
414 E. Clark
Vermillion, SD 57069
Phone: (605) 677-5287

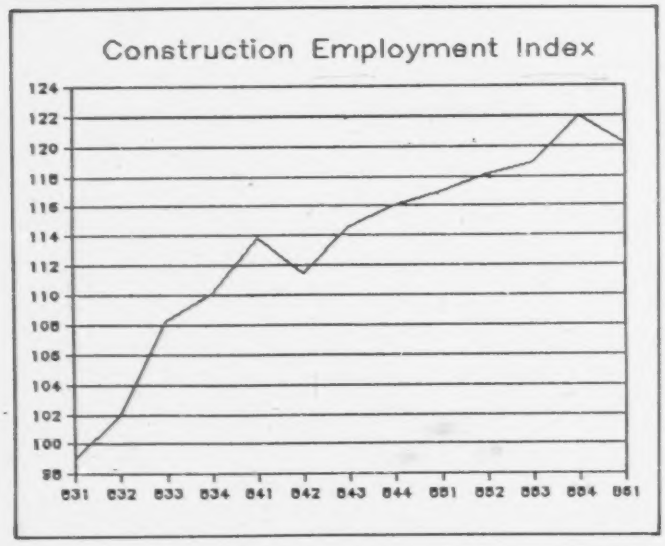
SOUTH DAKOTA BUSINESS & ECONOMIC INDICES

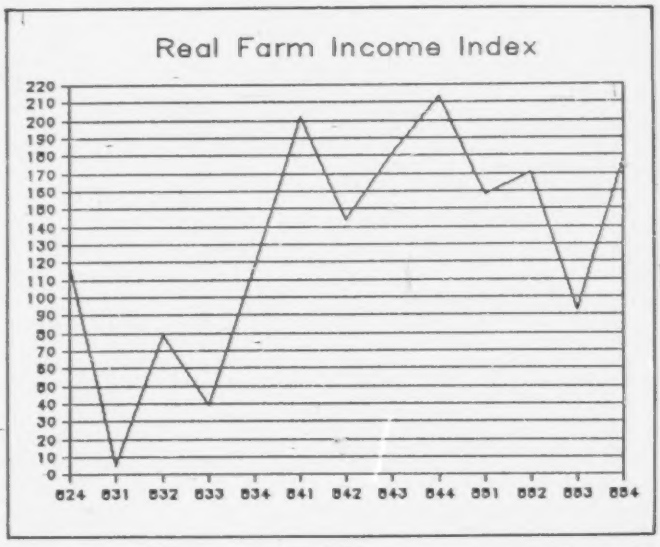
Quarterly Data 1982-1986

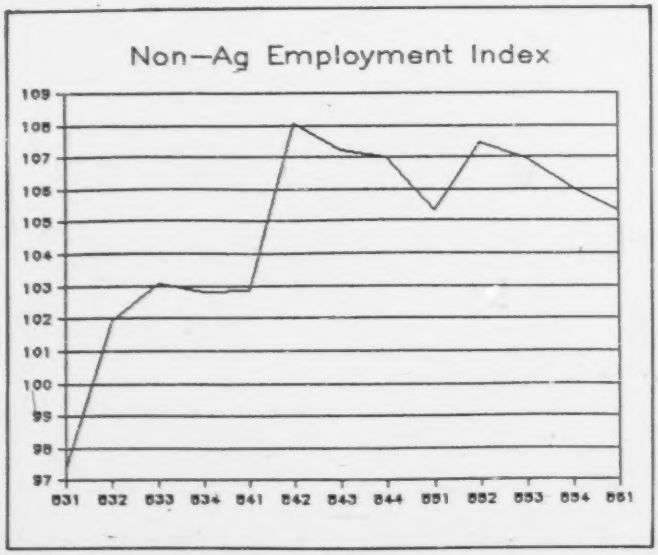
Adjusted for Seasonal Variation

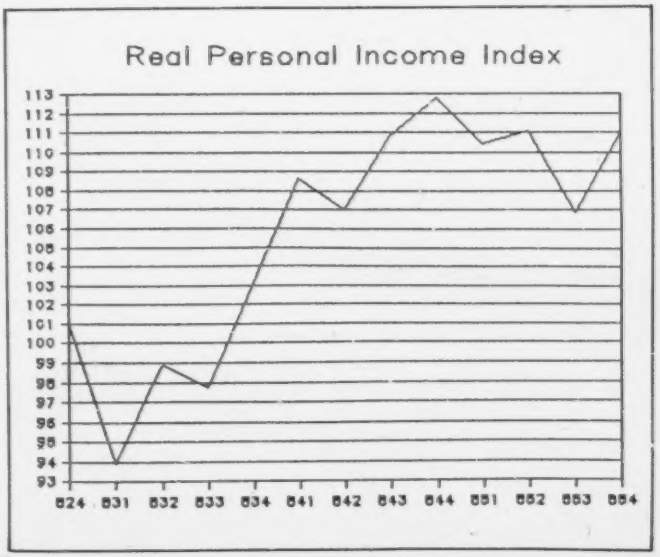












Continued from page 1

way to a wedding in St. Paul. None of these examples meet the criteria for being a vacation traveler. These are not the target of state and private visitor marketing plans, although in the course of their activity they use many of the same facilities used by the resident and non-resident vacation traveler.

Thus, the measure of economic impacts from vacation travelers is not a simple matter of recording total state lodging sector receipts, because a good share of motel guests are, in fact, not vacation travelers. The same is true of other sectors.

This document provides estimates of the true seasonal vacation traveler economic impact. The methodology employed helps assure that they are credible and not simply exaggerations produced by a too general definition of the traveler. The present study is methodologically constructed to concentrate on economic activity that is directly related to seasonal visitors to South Dakota. The major seasonal travel, of course, in South Dakota consists of the traditional summer vacation traveler and the magnitude of the importance of this segment to the industry will be seen later in this document. In many counties, however, there are other seasons which bear importance in local economic impacts. Counties in the northeast as well as along the Missouri River experience heavy seasonal visitor traffic in the spring and fall, coinciding with fishing and hunting opportunities. In Lawrence County, winter sports influence local retail enterprises. A key observation made is that in nearly all counties, there is some period of the year during which that county is nearly devoid of impact from seasonal travelers. It is this characteristic of the South Dakota hospitality industry that makes it possible to employ the methodology developed here in measuring various economic impacts. It will be noted later that a few local economies, such as those with rather large state universities, limit the effectiveness of this methodology.

The reader will note that this methodology allows one to concentrate on a rather specific definition of what is understood to be a vacation traveler. It will be understood that a visitor in this regard is someone who is traveling to or within South Dakota to experience a set of attributes which are at least somewhat unique to this state and unique at least somewhat to seasonal factors.

Ideally, one would measure spending impacts of the traveling public by tracing each and every expenditure to its source. Obviously this is impossible, so analysts must resort to indirect methods of capturing the amounts of aggregate expenditures that can reasonably be attributed to the visitor. The method employed by this writer must be fully understood in order to grasp the results obtained below.

First, economic activity will be measured in terms of taxable sales as recorded by the South Dakota Sales and Use Tax Report.[3] In addition, an examination of gasoline sales, the only major travel expenditure not covered by the state sales tax, will be made. The South Dakota Sales and Use Tax Report records sales made during bimonthly intervals, which enables one to trace intrayear movements in sales activity within spending categories.

As a means of measuring the average annual spending impact in lodging and food and beverage expenditures, that together account for about 45.5% of total visitor spending,[4] the following arithmetic procedure is employed.

For each individual county there exists at least one bimonthly period when taxable sales for lodging and food and beverages experiences its lowest point during the year. It is assumed that this particular bimonthly period (usually January and February, but not always) is characterized by virtually no seasonal travel volume, so that the differences in these sales in each of the other five bimonthly periods from the lowest bimonthly period, can be assumed to arise from seasonal visitors. Massive amounts of data for each South Dakota county were analyzed in this manner for the two year period beginning in September 1983 and ending August 1985, the latest month for which data was available at the time. Specifically, the classes of establishments entering this part of the analysis include eating and drinking places (S.I.C. Codes 5810, 5812, and 5813) and motels, hotels, rooming houses, camps and other lodging places (S.I.C. Codes 7010, 7021, 7030, 7032, 7033 and 7040).

Assuming that expenditures within these type of establishments represents 45.5% of visitor spending, estimates of total visitor spending can be arithmetically developed and appear in the second numeric column of table A for selected counties. The total amount of direct spending by visitors for the entire state is extimated to be $208 million annually.

The analysis accomplished nearly everything that was expected of it. In counties known for popular fishing activity in the spring or fall hunting activity, meaningful spending estimates were derived for each bi-monthly period as well as for the annual cycle. Similarly, traditional summer travel and its impact is measured realistically for each county so affected in South Dakota.

MULTIPLIER ANALYSIS

The soie purpose of Multiplier Analysis is to provide a means for converting the direct impacts of externally-derived economic activity into an estimated total impact. The previously developed county estimates of visitor spending constitute direct or basic expenditures. They are not the totality of direct expenditures but, are rather the portion of direct expenditures safely attributable to the vacation visitor. In keeping with the theme of this document, it is this source of expenditures which will be treated herein.

From the standpoint of a local economy, these visitor-originated dollars are an important source of new money and therefore, economic activity flowing into an economy. It has been clearly demonstrated above that in some counties this source of expenditure is critical to their overall economic structure. It is helpful to envision this dynamic process as one in which a basic expenditure source supports the non-basic portion of the economy, and that it is changes in direct or basic spending that produce changes in the local or non-basic sector.

Another way to characterize the process is that local money continually leaves a county for the purpose of buying non-locally produced goods and services which must in time be matched by money flowing back into the county via basic or export spending. In reality, it is increases in basic spending that bring about increases in income, spending, and employment in the local economy.

The economic process described above is in sharp contrast to other forms of local spending. Take, for example, a local government that institutes a new local tax to build a new local building. This type of local spending is incapable of generating new local income because it is not derived from a basic spending sector. It is merely a shift of spending from one local spending unit to another. It is then understandable why it is important to analyze the magnitude of the total effect which is produced from external or basic spending by the visitor.

The multiplier is the link between some quantity of basic activity to total activity. Unfortunately, each local economy has its own unique multipliers and they are, of course, unknown. Thus, some method of estimating these multipliers must be employed. The Location Quotient (LQ) method is perhaps the most theoretically elegant technique, but it is very difficult to apply, especially for small local economies such as the subject of the present study.[6]

Fortunately, another well-known method is available for estimating multipliers that is called the Minimum Requirements Approach. First developed by Dacey and Ullman[7], the technique was initially used to develop employment multipliers. The fundamental principle under the Minimum Requirements Approach is that larger populations can provide more goods and services locally, causing the propensity to consume locally to increase. Further, the higher the proportion of successive rounds of spending which remain in the local economy, the higher then should be the employment multiplier. This results in the notion that the employment multiplier is an increasing function of population. The following equation is estimated by Moore[8] where "M" is the employment multiplier.

$$M = 100/(1 + 20.36538 - 13.7834 (\text{Log}^{10} \text{ of Population}))$$

This multiplier increases with population and is the form of multiplier used in the subsequent analysis.

Despite its shortcomings and the corresponding difficulty in defending its use, it continues to produce surprisingly accurate results. For example, in a 1982 impact analysis of Grand Teton National Park in Teton County, Wyoming, the employment multiplier derived from the sophisticated LQ approach was 1.49.[9] The Minimum Requirements Approach also was 1.49. Similarly favorable results were obtained by Gibson[10] in a study of Coconino County, Arizona as well as others. Roepke and Fruedenberg[11] explain why the Minimum Requirements Approach is consistent with economic theory and why results are quite reasonable for small non-metropolitan areas.

The preceding justification for the multiplier analysis used here references the employment multiplier. The following observations are in support of the notion that the expenditure multiplier is of approximately the same value as the employment multiplier.

A number of alternative conditions exist which, each by themselves, would tend to bring about an equality between multipliers. If the ratios of total labor input to basic labor is approximately equal to the ratio of total expenditures to basic expenditures in those sectors most impacted by visitor expenditures, it would then be expected that employment and spending multipliers would be equal. In a recent study concerning Teton County, Wyoming,[9] both individual sectors as well as the sum of visitor-impacted sectors had a tendency for these ratios to be equal.

Also, the wider the spectrum across sectors visitor spending tends to be, the more one would expect the multipliers to equate to each other. When all retail purchases are included, it appears that visitors collectively purchase significant amounts from a lot of different sectors.

It is also true that the more proportionate the input of labor is to the quantity of goods and services supplied to export sectors, a greater tendency exists that the multipliers will be equal. From the standpoint of the vacation traveler, much of what is exported to him comes in the form of services. Labor inputs in service sectors tend to be proportionate to quantity of services delivered.

For the above reasons and others, we would expect spending multipliers to be approximately the same as employment multipliers. Referring to the Teton County, Wyoming study, the income multiplier is 1.50 while the employment multiplier is 1.49[9] which, obviously with the degree of accuracy that is possible in this type of analysis, is to say that they are equal.

The preceding arguments support the notion of a tendency of equality of multipliers. For this reason, it is assumed that the expenditure multiplier is equal to the employment multiplier, which in turn is calculated using the Minimum Requirements Method.

The application of the respective county multipliers results in the spending estimates in the last two columns of Table A.

TABLE A
Economic Impact by Selected County Measured
By Both Direct and Total Visitor Originated Spending
As a Percent of Taxable Sales.
Average Annual Totals. September 1983 - August 1985

COUNTY	TAXABLE SALES	DIRECT VISITOR SPENDING	PER CENT **	DIRECT AND INDIRECT VISITOR SPENDING*	PER CENT ***
CUSTER	$27,741,688	$11,738,832	42.3%	$17,189,778	62.0%
JACKSON	8,351,855	3,456,154	41.4	4,825,359	57.8
JONES	11,474,767	2,673,488	23.3	3,483,937	30.4
BRULE	25,510,441	4,613,337	18.1	6,676,837	26.2
SULLY	6,208,198	1,074,339	17.3	1,434,442	23.1
FALL RIVER	27,902,778	3,507,694	12.6	5,294,813	19.0
LAWRENCE	100,792,119	11,567,180	11.5	18,744,946	18.6
CLAY	43,702,987	5,156,413	11.8	8,107,643	18.6
LYMAN	12,856,985	1,605,246	12.5	2,263,338	17.6
PENNINGTON	603,092,532	56,756,375	9.4	105,940,185	17.6
UNION	29,144,261	3,245,714	11.1	5,016,940	17.2
DAVISON	125,326,801	11,288,591	9.0	18,274,189	14.6
MEADE	44,893,984	3,416,263	7.6	5,612,233	12.5
McCOOK	16,822,235	1,406,929	8.4	2,073,213	12.3
POTTER	15,516,886	1,325,255	8.5	1,860,643	12.0
ROBERTS	27,526,816	1,921,290	7.0	2,969,082	10.8
SPINK	25,174,498	1,620,473	6.4	2,465,338	9.8
CHARLES MIX	30,200,835	1,901,290	6.3	2,905,996	9.6
BUTTE	38,644,213	2,179,459	5.6	3,287,493	8.5
WALWORTH	39,130,805	2,118,815	5.4	3,145,627	8.0
PERKINS	19,288,213	1,039,233	5.4	1,489,910	7.7
TRIPP	34,870,233	1,609,736	4.6	2,397,508	6.9
BROOKINGS	109,550,855	4,271,141	3.9	7,129,390	6.5
LAKE	46,864,070	1,878,018	4.2	2,897,579	6.5
GRANT	38,467,607	1,553,657	4.0	2,359,251	6.1
HUGHES	96,764,014	3,736,560	3.9	5,919,368	6.1
HUTCHINSON	32,341,455	1,228,584	3.8	1,871,868	5.8
YANKTON	107,214,476	3,745,523	3.5	6,099,729	5.7
MINNEHAHA	900,592,262	25,535,941	2.8	50,160,294	5.6
CODINGTON	155,168,531	5,071,904	3.3	8,338,741	5.4
BROWN	239,765,752	6,752,689	2.8	11,762,652	4.9
BEADLE	97,670,445	2,720,777	2.8	4,436,400	4.5

* Numbers in this column include the direct or basic spending plus the induced local spending brought about by direct visitor spending.

** Direct visitor spending expressed as a percent of annual taxable sales.

*** Direct PLUS induced visitor spending as a percent of annual taxable sales.

NOTE: Direct visitor spending includes gasoline sales.

Some Conclusions Follow:

A. When direct and indirect or multiplier effects are included, as much as 62% of taxable sales can be traced to visitor spending as is the case of Custer County.

B. When relative impact is considered, it is clear that economic dependence on travel is generally higher for lower population, less diversified counties. Custer, Jackson, Jones and Brule Counties can all trace from 26 to 62% of their taxable sales to the traveling public, which of course provides very favorable swings in high visitor volume years and vice versa.

C. It is also interesting to notice the surprising position some counties, not connected with the Black Hills and Interstate 90, take in the relative ranking. Sully, Potter, Roberts and Spink Counties generate impressive proportions of taxable sales from visitors taking advantage of fishing, hunting and other seasonal activities. The reader is sure to note other counties as well, with somewhat surprising impacts on sales generated by visitors. Pennington County has the

Continued on page 6

Continued from page 5

highest absolute volume of direct and indirect visitor expenditure and Minnehaha County is second highest. Because of diversification, the higher population counties experience more moderate relative changes as visitor volume fluctuates.

D. The methodology employed in determining visitor impact was effective in arriving at reasonable visitor impacts in all but four counties. Brookings and Clay Counties are both so overwhelmingly dominated by the universities that separating the university impact from other visitor impact was probably not successful. Accordingly, visitor impacts may be over estimated for these counties. Hughes and Lawrence Counties each appear to be so diversified in their sources of visitors that it is not possible to find a bimonthly period for indexing purposes. Hughes County experiences visitor activity in the winter because of the Legislative Session, the spring and summer brings fishing as well as traditional summer travelers while the fall provides hunting visitors. A similar situation exists in Lawrence County where snow sports provide significant volumes of visitors in the winter. As a result of this, it is likely that actual visitor volume in Hughes and Lawrence Counties has been underestimated in this document.

TOTAL STATE IMPACT

Each of the total spending values in the previous table are strictly defined as the total (direct and secondary) county spending estimated to take place as a result of visitors spending money in a given county. Total spending specifically does not include secondary spending that occurs in County A by residents in county B.

If part of the spending which is taking place in County A by residents of County B is afforded because of visitor spending which earlier occurred in County B, then this is a spending impact that has escaped the earlier analysis and should be dealt with. In other words, within the state there are considerable expenditures that, while not being local, are still occurring within South Dakota. If these expenditures are induced by direct spending by visitors, then the resultant impact should be considered in part of the total state impact arising from visitors.

It is helpful to have a state multiplier for this purpose which of course would provide a link, in this application, between basic visitor expenditure and resultant total state spending. Using procedures similar to those used earlier in developing multipliers, it would be reasonable to assign the value 2.5 as the spending multiplier for the State of South Dakota. In other words, through the continuous cycles of spending, each dollar of export or basic spending will yield an additional $1.5 of secondary spending, yielding a total spending impact of $2.50. This multiplier value implies an average marginal propensity to consume within the State of South Dakota of .6 by secondary spending units, which seems reasonable.

For the entire state, it was found that $208,127,285 was estimated to have been directly spent by the seasonal traveler in South Dakota. Using the state multiplier of 2.5 in conjunction with the total direct spending yields total state spending of about $520,000,000 in total expenditure impact. As a point of reference this equates to 13.3% of total in-state taxable sales.

In selecting an appropriate multiplier for the state, one can be sure that it would be larger than the multiplier for the largest county because of the likely occurrence in cross-county expenditures. If the reader would be more comfortable with a lower state multiplier such as 2.25 then the total spending impact would total $468 million.

CONCLUSIONS

The methodology used here results in adopting a narrower definition of a traveler than other research efforts such as those performed by the U.S. Travel Data Center.[1] Travel is defined by them to include all overnight trips and day trips to places 100 miles or more from the traveler's point of origin. Obviously, this broad definition of travel includes an enormous proportion of trips which are peculiar to the day-to-day activity of a sparsely populated state like South Dakota and has little to do with the hospitality industry. It is the writer's position that this definition results in unrealistic inferences about the actual impact visitors have within the defined market of South Dakota's sports, sightseeing and recreation industry.

Some mathematical examples should demonstrate to the reader why the U.S. Travel Data Center's estimates of nearly $500 million of direct visitor spending in South Dakota is unrealistic. Since in-state taxable sales are approximately $4 billion annually in South Dakota, it suggests that one of every eight dollars spent throughout the year is visitor-originated. Moreover, if one includes a multiplier effect, it would imply that a total state income impact generated from the travel industry is equal to 31% of total in-state taxable sales. Casual observation would suggest that each of these possibilities are unlikely to be true

Nevertheless, the realistic but smaller impacts developed in this research document are substantial in terms of the state economy. Each single percentage point increase in visitor volume translates into approximately $5.2 million in new state spending. By the same token, a one percent decline in visitor volume decreases spending within the state by a like amount. Secondary or mulitiplier impacts are included here.

If one includes only direct or primary visitor expenditures, there would be a gain of $20.8 million in such spending within the state for each 10% increase in visitor volume. This translates into new direct revenue for the state of over $1.5 million in the form of additional taxes and fees. If secondary spending which arises from increased economic activity within the state economy is included, revenue is augmented by about $2.4 million for each 10% increase in visitor volume.

REFERENCE NOTES

1. See for Example: The Impact of Travel on State Economies 1983. U.S. Travel Data Center, May, 1985.
2. South Dakota Health Department License Listing Documents, 1985.
3. South Dakota Sales and Use Tax Report, Numbers 1-13, July, 1983 to August, 1985.
4. Black Hills and Badlands Tourism Survey, Sixth District Council of Local Governments and the Impact of Travel on State Economies, 1983; U.S. Travel Data Center, May, 1985.
5. Rapid City Market Analysis and Economic Impact Study 1980 by Arnold Bateman, S.D.S.U. 1981.

6. "A Bracketing Approach for Estimating Regional Economic Multipliers and a Procedure for Assessing their Accuracy" by Andrew M. Isserman, Environment and Planning V.9, 1977.

7. "The Minimum Requirements Approach to the Urban Economic Base" by Michael F. Dacey and Edward L. Ullman. Papers and Proceedings of the Regional Science Association, 1960.

8. "A New Look at the Minimum Requirements Approach to Regional Economic Analysis." Economic Geography, by Craig Moore, Vol. 51, 1975.

9. Analysis of the Long-Term Impacts and Benefits of Grand Teton National Park on the Economy of Teton County, Wyoming by J. Morrifield and Shelby Gerking, Institute for Policy Research, Laramie, Wyo., 1982.

10. "Local Impact Analysis: An Arizona Case Study," Arizona Review, Vol. 24, No. 1, by J.L. Gibson, 1975.

11. "The Employment Structures of Non-metropolitan Counties," Annals of the Association of American Geographers, Vol. 7, No. 4, by Howard G. Roepke and David A. Freudenberg.

12. "Income Multipliers for Community Impact Analysis - What size is Reasonable?", by John Gordon and David Mulkey, Journal of Community Development Society of America, Fall, 1978.

13. See: Economic and Fiscal Impact of the Rapid City Hospitality Industry, by Michael K. Madden, 1984 and An Analysis of Economic and Fiscal Impacts of the Hospitality Industry, Wall, South Dakota, by Michael K. Madden, 1985.

14. South Dakota Department of Game, Fish and Parks documents.

SCHOOL OF BUSINESS INTERNSHIP PROGRAM AND EMPLOYMENT STATISTICS FOR SCHOOL YEAR ENDING MAY 16, 1986

Gene B. Iverson

INTERNSHIP PROGRAM

The School of Business has been giving internship credit for work experiences since 1968. The internship program allows students the opportunity to apply classroom education in a working atmosphere. Internships are open to those students who have completed at least one semester of course work in the School of Business.

The most valuable aspect of an on-the-job internship is the experience gained. As a salaried employee, the intern participates in company operations. We expect the students to perform as any other employee of the firm and we expect the firm to provide varied and worthwhile employment.

University credit up to eight (8) semester hours is given for this work experience. No reports are required of either the employer or the interning student. During the period of the internship the student is under the jurisdiction of the employer and, whenever possible, a representative of the School of Business will visit with the employer and the intern.

Many accounting majors take an internship with public accounting firms during the Spring semester of their senior year from January to March. Each year the internship program has been increasing in numbers. A new major in the School of Business is the Health Services Administration field and these students may earn up to twelve (12) semester hours of credit working in hospitals or for a health organization. Table I shows the breakdown by term and by major.

TABLE I
SCHOOL OF BUSINESS INTERNS
FOR 1985-86 SCHOOL YEAR

	Accounting Majors	Management Majors	Total
Summer Term, 1985	25	90	115
Fall Semester, 1985	1	19	20
Spring Semester, 1986	44	42	86
TOTAL	70	151	221

The locations of students on internships varied from California to Florida with the majority of the students located in South Dakota. Table II shows the location of the interns in the immediate area.

TABLE II
LOCATIONS OF INTERNSHIP STUDENTS

State	Number
South Dakota	156
Minnesota	21
Iowa	13
Nebraska	7
Other	24
TOTAL	221

The students in the internship program received credit ranging from one (1) to eight (8) semester hours of credit. The number of hours of credit is based on the amount of business experience obtained and the total hours worked by the students. The credit hours are based upon information provided by the firm offering the work experience.

EMPLOYMENT

Students finish their degree program and are available to enter the work force in August, December and May. Employment for December graduates was excellent while employment for May graduates appears to be strong. We will be conducting a survey of all 1985-86 academic year graduates to determine their employment opportunities and plans.

Approximately 250 students were registered with the Business Placement Bureau. This included 125 management

Continued on page 12

Gene B. Iverson, Ed.D. is Professor of Production and Director of the Business Placement Bureau at the School of Business, University of South Dakota.

PERSONAL INCOME UPDATE

Nancy Nelson

INTRODUCTION

The Bureau of Economic Analysis of the U.S. Department of Commerce recently released 1985 personal income figures for states. The U.S. average in 1985 was $13,451 compared to $12,772 in 1984, an increase of 5.3 percent. South Dakota's personal income rose 3.2 percent for this period from $7,696,000,000 in 1984 to $7,946,000,000 in 1985.

COUNTY PERSONAL AND PER CAPITA INCOME

Personal income represents income before taxes and consists of earnings (labor and proprietors' income); dividends, interest, and rent; and transfer payments (such as social security). The following tables provide total personal income and per capita income for South Dakota and counties for the years 1982, 1983, and 1984.

TABLE 1
COUNTY TOTAL PERSONAL INCOME
SOUTH DAKOTA COUNTIES
(Millions of dollars)

SOUTH DAKOTA	1982	1983	1984	1984 RANK
South Dakota	6479.5	6626.7	7696.1	--
Aurora	26.6	23.0	31.6	54
Beadle	192.2	192.0	217.4	6
Bennett	20.3	23.1	28.8	57
Bon Homme	68.6	65.4	81.1	25
Brookings	208.7	217.0	243.7	4
Brown	375.9	386.4	440.2	3
Brule	49.6	48.1	58.2	34
Buffalo	11.1	10.1	13.0	66
Butte	72.2	72.7	84.3	24
Campbell	18.5	17.6	25.2	59
Charles Mix	75.2	66.7	85.8	22
Clark	43.0	42.6	55.2	36
Clay	111.0	115.4	131.0	13
Codington	200.8	205.7	231.5	5
Corson	29.4	30.6	38.8	47
Custer	56.2	56.4	62.9	30
Davison	171.9	172.2	192.2	10
Day	68.2	69.4	84.8	23
Deuel	44.9	42.8	52.4	39
Dewey	38.9	38.8	45.9	43
Douglas	31.0	25.7	35.8	51
Edmunds	42.4	40.5	52.2	40
Fall River	82.6	82.2	94.0	21
Faulk	29.4	27.9	35.7	52
Grant	84.1	85.1	99.4	19
Gregory	50.5	48.2	58.9	32
Haakon	26.5	27.4	36.8	50
Hamlin	43.1	41.5	53.2	38
Hand	46.2	45.6	58.0	35
Hanson	25.6	22.1	28.8	58
Harding	16.1	16.3	20.9	64
Hughes	152.0	158.3	178.5	11
Hutchinson	82.2	76.2	94.9	20
Hyde	19.8	20.2	25.1	60
Jackson	21.2	23.0	30.7	55
Jerauld	21.8	21.4	25.1	61
Jones	15.7	17.0	22.5	63
Kingsbury	63.1	61.6	77.3	28
Lake	98.6	97.3	116.4	15
Lawrence	169.4	183.2	199.4	9
Lincoln	134.8	139.4	163.5	12
Lyman	33.3	34.4	46.3	42
McCook	53.3	52.0	62.1	31
McPherson	35.9	34.6	42.2	44
Marshall	43.6	43.1	54.9	37
Meade	187.2	188.4	212.0	7
Mellette	15.5	15.9	19.1	65
Miner	32.4	30.2	37.5	49
Minnehaha	1247.4	1327.3	1468.4	1
Moody	55.7	55.8	70.7	29
Pennington	727.0	768.5	856.8	2
Perkins	43.1	46.7	58.2	33
Potter	36.4	37.3	49.7	41
Roberts	84.6	87.6	103.0	18
Sanborn	26.1	23.4	30.5	56
Shannon	37.2	37.4	41.1	46
Spink	86.7	83.6	108.4	16
Stanley	22.7	24.4	33.3	53
Sully	23.5	24.5	38.4	48
Todd	35.3	36.4	42.2	45
Tripp	66.1	64.8	80.3	26
Turner	86.6	86.3	103.4	17
Union	105.7	106.2	123.9	14
Walworth	66.0	67.1	79.4	27
Yankton	173.8	177.8	200.6	8
Ziebach	17.0	17.2	22.7	62

TABLE 1 con't.
COUNTY TOTAL PERSONAL INCOME
SOUTH DAKOTA COUNTIES
(Millions of dollars)

TABLE 2
PER CAPITA PERSONAL INCOME
SOUTH DAKOTA COUNTIES
(Dollars)

SOUTH DAKOTA	1982	1983	1984	1984 RANK
South Dakota	9,331	9,484	10,904	--
Aurora	7,438	6,484	9,073	55
Beadle	10,087	10,277	11,836	15
Bennett	6,572	7,258	8,813	59
Bon Homme	8,866	8,464	10,299	40
Brookings	8,404	8,731	9,744	49
Brown	10,099	10,503	11,966	11
Brule	9,325	8,928	10,807	28
Buffalo	6,414	6,039	7,570	63
Butte	8,681	8,786	10,217	41
Campbell	8,311	7,868	11,108	25
Charles Mix	7,735	6,931	8,825	58
Clark	8,861	8,605	11,144	24
Clay	8,102	8,415	9,587	50
Codington	9,279	9,413	10,481	34
Corson	5,543	5,767	7,389	64
Custer	8,692	8,868	9,469	51
Davison	9,703	9,712	10,787	29
Day	8,497	8,687	10,661	30
Deuel	8,494	8,194	10,026	44
Dewey	7,325	7,166	8,389	61
Douglas	7,775	6,441	9,050	56
Edmunds	8,520	8,217	10,464	36
Fall River	10,331	10,301	11,819	17
Faulk	8,917	8,580	11,230	23
Grant	9,174	9,029	10,480	35
Gregory	8,544	8,141	9,938	45
Haakon	9,403	9,707	12,539	6
Hamlin	8,311	7,929	10,115	43
Hand	9,640	9,524	12,161	9
Hanson	7,542	6,610	8,684	60
Harding	9,583	9,422	11,274	22
Hughes	10,526	10,913	12,127	10
Hutchinson	8,940	8,330	10,413	38
Hyde	10,092	10,119	12,875	5
Jackson	6,439	6,854	9,248	53
Jerauld	7,567	7,625	9,036	57
Jones	11,036	11,598	14,957	2
Kingsbury	9,476	9,399	11,821	16
Lake	9,075	9,000	10,624	31
Lawrence	9,090	9,681	10,400	39
Lincoln	9,746	9,958	11,425	20
Lyman	8,773	8,986	11,869	13
McCook	8,434	8,308	9,888	46
McPherson	9,118	8,933	11,019	27
Marshall	8,168	8,138	10,439	37
Meade	8,932	8,891	9,845	47
Mellette	6,807	6,978	8,116	62
Miner	8,879	8,361	10,580	32
Minnehaha	11,120	11,559	12,429	7
Moody	8,176	8,123	10,212	42
Pennington	10,055	10,429	11,468	18
Perkins	9,400	10,101	12,364	8
Potter	9,633	10,044	13,403	4
Roberts	7,686	8,013	9,322	52
Sanborn	8,255	7,547	9,766	48
Shannon	3,304	3,378	3,652	66
Spink	9,491	9,194	11,883	12
Stanley	9,459	10,051	13,479	3
Sully	12,423	13,185	20,268	1
Todd	4,886	5,035	5,788	65
Tripp	9,408	8,959	11,071	26
Turner	9,477	9,396	11,289	21
Union	9,724	9,864	11,452	19
Walworth	9,748	9,795	11,836	14
Yankton	9,153	9,328	10,501	33
Ziebach	7,345	7,229	9,210	54

TAXABLE SALES
Counties and Selected Cities in South Dakota
Jan.-Feb., 1985 and 1986
(In $000's)

REGION I

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Brookings	16,815	16,390	-2.5
Brookings	15,487	15,041	-2.9
Elkton	330	342	3.6
Volga	469	475	1.3
Clark	1,611	1,460	-9.4
Clark	1,185	1,081	-8.8
Codington	22,992	21,910	-4.7
Watertown	22,283	21,319	-4.3
Deuel	2,413	2,236	-7.4
Clear Lake	1,791	1,644	-8.2
Gary	139	136	-2.2
Toronto	352	339	-3.7
Grant	5,677	7,062	24.4
Big Stone C.	385	412	7.0
Milbank	4,963	6,336	27.7
Hamlin	1,679	1,668	-0.7
Bryant	323	376	16.4
Castlewood	167	158	-5.4
Estelline	325	473	-9.9
Hayti	399	411	3.0
Lake Norden	164	150	-8.5
Kingsbury	3,012	2,879	-4.4
Arlington	793	797	0.5
De Smet	1,234	1,191	-3.5
Lake Preston	483	442	-8.5
Lake	6,670	6,407	-3.9
Madison	6,236	5,955	-4.5
Miner	1,289	1,282	-0.5
Howard	987	1,007	2.0
Moody	4,903	4,864	-0.8
Colman	3,230	3,118	-3.5
Flandreau	1,564	1,576	0.8
TOTAL	67,062	66,158	-1.3

REGION II

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Clay	6,837	6,980	2.1
Vermillion	6,127	6,236	1.8
Lincoln	4,756	4,525	-4.9
Canton	1,706	1,887	10.6
Lennox	1,235	1,008	-18.4
McCook	2,381	2,406	1.0
Bridgewater	340	346	1.8
Canistota	291	248	-14.8
Salem	1,483	1,497	0.9
Minnehaha	131,166	133,098	1.5
Baltic	312	289	-7.4
Brandon	737	730	-0.9
Colton	332	336	1.2
Dell Rapids	1,362	1,312	-3.7
Garretson	615	672	9.3
Hartford	325	341	4.9
Sioux Falls	123,421	125,206	1.5
Turner	3,680	3,500	-4.9
Centerville	506	504	-0.4
Marion	1,353	1,367	1.0
Parker	645	618	-4.2
Union	3,895	4,048	3.9
Alcester	1,257	1,348	7.2
Beresford	1,384	1,404	1.4
Elk Point	795	850	6.9
TOTAL	152,715	154,358	1.2

REGION III

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Aurora	1,752	1,740	-0.7
Plankinton	1,170	1,207	3.2
Bon Homme	3,439	3,471	0.9
Avon	731	667	-8.8
Scotland	677	685	1.2
Springfield	372	403	8.3
Tabor	769	717	-6.8
Tyndall	859	948	10.4
Brule	3,587	3,307	-7.8
Chamberlain	2,813	2,538	-9.8
Kimball	642	661	3.0
Charles Mix	4,405	4,504	2.2
Geddes	152	147	-3.3
Lake Andes	788	793	0.6
Platte	1,989	1,881	-5.4
Wagner	1,338	1,584	18.4
Davison	17,270	16,811	-2.7
Mitchell	16,857	16,493	-2.2
Douglas	1,638	1,618	-1.2
Armour	796	793	-0.4
Corsica	597	631	5.7
Gregory	2,938	2,976	1.3
Burke	704	738	4.8
Gregory	1,535	1,542	0.5
Hanson	699	866	23.9
Alexandria	434	613	41.2
Emery	260	248	-4.6
Hutchinson	4,690	4,629	-1.3
Freeman	1,862	1,808	-2.9
Menno	656	643	-2.0
Parkston	1,435	1,461	1.8
Tripp	547	498	-9.0
Jerauld	1,272	1,232	-3.1
Wess. Sprgs.	1,129	1,060	-6.1
Sanborn	1,133	817	-27.9
Woonsocket	795	607	-23.6
Yankton	15,211	15,237	0.2
Yankton	14,618	14,792	1.2
TOTAL	58,035	57,208	-1.4

REGION IV

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Beadle	14,216	16,163	13.7
Huron	13,391	15,362	14.7
Brown	34,212	33,293	-2.7
Aberdeen	31,931	31,134	-2.5
Groton	1,038	991	-4.5
Day	3,728	3,466	-7.0
Bristol	272	246	-9.6
Waubay	186	178	-4.3
Webster	2,963	2,744	-7.4
Edmunds	2,297	2,176	-5.4
Bowdle	437	445	1.8
Hosmer	208	203	-2.4
Ipswich	1,296	1,192	-8.0
Roscoe	287	259	-9.8
Faulk	1,157	1,175	1.6
Faulkton	711	801	12.7
Hand	2,698	2,593	-3.9
Miller	2,425	2,340	-3.5
McPherson	1,535	1,360	-11.4
Eureka	1,119	1,009	-9.8
Leola	329	308	-6.4
Marshall	2,053	1,961	-4.5
Britton	1,537	1,469	-4.4
Roberts	4,244	3,958	-6.7
Sisseton	2,735	2,478	-9.4
Wilmot	527	486	-7.8
Spink	3,591	3,525	-1.8
Doland	163	153	-6.1
Redfield	3,027	2,926	-3.3
TOTAL	69,734	69,672	-0.1

REGION V

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Buffalo	30	23	-23.3
Campbell	752	762	1.3
Herreid	413	425	2.9
Pollock	267	273	2.2
Corson	474	508	7.2
McIntosh	153	165	7.8
McLaughlin	167	201	20.4
Dewey	1,998	1,872	-6.3
Eagle Butte	1,312	1,332	1.5
Isabel	211	143	-32.2
Timber Lake	343	283	-17.5
Haakon	1,751	1,565	-10.6
Philip	1,538	1,406	-8.6
Hughes	14,512	14,171	-2.3
Blunt	475	456	-4.0
Pierre	13,945	13,611	-2.4
Hyde	1,284	1,357	5.7
Highmore	1,263	1,336	5.8
Jones	1,581	1,486	-6.0
Murdo	1,465	1,395	-4.8
Lyman	1,560	1,521	-2.5
Presho	440	390	-11.4
Mellette	468	471	0.6
White River	391	412	5.4
Perkins	2,796	2,727	-2.5
Lemmon	2,181	2,141	-1.8
Potter	2,275	1,933	-15.0
Gettysburg	1,630	1,340	-17.8
Hoven	521	520	-0.2
Stanley	1,581	1,589	0.5
Ft. Pierre	1,359	1,370	0.7
Sully	963	839	-12.9
Onida	914	785	-14.1
Tripp	5,014	4,760	-5.1
Winner	4,731	4,511	-4.7
Todd	1,479	1,593	7.7
Mission	1,284	1,354	5.5
Walworth	5,779	5,621	-2.7
Mobridge	4,048	3,997	-1.7
Selby	1,162	1,112	-4.3
Ziebach	316	302	-4.4
Dupree	303	280	-7.6
TOTAL	44,612	43,101	-3.4

REGION VI

	Jan.-Feb. 1985	Jan.-Feb. 1986	% Change
Bennett	1,717	1,644	-4.3
Martin	1,686	1,616	-4.2
Butte	5,493	4,971	-9.5
Belle Fche.	4,097	3,698	-9.7
Newell	907	835	-7.9
Custer	3,010	2,864	-4.9
Custer	2,846	2,731	-4.0
Fall River	3,914	3,667	-6.3
Edgemont	823	708	-14.0
Hot Sprgs.	2,906	2,796	-3.8
Harding	648	507	-21.8
Buffalo	595	456	-23.4
Jackson	970	1,240	27.8
Kadoka	813	1,069	31.5
Lawrence	13,497	14,788	8.0
Deadwood	2,386	2,459	3.1
Lead	3,208	3,899	21.5
Spearfish	5,855	6,440	10.0
Whitewood	294	252	-14.3
Meade	6,084	5,927	-2.6
Faith	733	721	-1.6
Sturgis	4,359	4,311	-1.1
Pennington	79,887	81,036	1.4
Rapid City	72,474	73,923	2.0
Wall	2,734	2,555	-6.6
Shannon	754	671	-11.0
Pine Ridge	114	107	-7.8
Washabaugh	64	13	-79.7
TOTAL	116,240	117,327	0.9
STATE TOTAL	508,397	508,024	-0.1

For further information on sales tax data contact Nancy Nelson at the Business Research Bureau.

SOUTH DAKOTA INCOME AND EMPLOYMENT

TOTAL PERSONAL INCOME
United States, Plains Region and States
Fourth Quarter 1985-Fourth Quarter 1986
(Millions of Dollars, Seasonally Adjusted at Annual Rates)

	1984	1985				% Change
	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	4th Qtr. 1984 4th Qtr. 1985
United States	3,107,659	3,156,982	3,193,455	3,207,892	3,268,059	5.2
Plains States	226,051	230,636	234,399	230,129	239,055	5.8
Iowa	35,994	36,605	37,808	35,512	37,790	5.0
Kansas	33,543	33,886	34,244	34,125	35,296	5.2
Minnesota	56,851	58,085	59,130	58,331	60,352	6.2
Missouri	62,066	63,323	64,127	64,518	65,547	5.6
Nebraska	20,692	21,807	22,425	21,086	22,733	9.9
North Dakota	8,898	9,039	8,650	8,809	9,204	3.4
South Dakota	8,008	7,890	8,013	7,748	8,134	1.6

Note: Detail may not add to totals because of rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

SOUTH DAKOTA NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
March 1985 and March 1986
(In Thousands)

				Average Weekly Hours		Average Hourly Earnings	
	March 1985	March 1986	% Change	March 1985	March 1986	March 1985	March 1986
Total Employment	243.6	243.9	0.1				
Mining	2.4	2.2	-8.3				
Construction	7.3	7.4	1.4				
Manufacturing	28.1	27.1	-3.6	42.20	41.60	$7.41	$7.67
Durable Goods	15.1	14.3	-5.3	41.70	41.40	$7.28	$7.39
Fabricated Metals & Mach.	9.8	8.7	-11.2				
Nondurable Goods	13.0	12.8	-1.5	42.80	41.90	$7.58	$8.00
Food & Kindred Products	7.6	7.5	-1.3				
Paper, Printing & Publishing	2.7	2.8	3.7				
Transportation & Pub. Utilities	12.7	12.5	-1.6				
Transportation	7.4	7.4	0.0				
Communication & Pub. Utilities	3.0	2.8	-6.7				
Wholesale & Retail Trade	63.5	63.1	-0.6				
Wholesale Trade	16.5	15.8	-4.2				
Durable Goods	7.4	7.0	-5.4				
Nondurable Goods	9.1	8.8	-3.3				
Retail Trade	47.0	47.3	0.6				
Finance, Insurance & Real Estate	13.8	13.7	-0.7				
Services	57.8	58.6	1.4				
Hotels, Amuse., Pers. & Business	14.7	14.7	0.0				
Medical & Health	22.6	23.0	1.8				
Educational, Membership & Social	17.4	17.7	1.7				
Government	58.1	59.2	1.9				
Federal	10.1	10.3	2.0				
State	16.2	16.5	1.9				
State Education	8.2	8.1	-1.2				
Local	31.8	32.4	1.9				
Local Education	18.9	19.5	3.2				

Source: South Dakota Department of Labor

For further information contact Nancy Nelson

SOUTH DAKOTA AGRICULTURAL INDICATORS

SOUTH DAKOTA PROSPECTIVE PLANTINGS
1984, 1985, and 1986
Acreage Planted (Actual)
1,000 Acres

	Actual 1984	Actual 1985	Intentions 1986
All Corn	3,400	3,510	3,300
All Sorghum	360	360	500
Oats	1,700	1,900	1,900
Barley	610	780	780
Soybeans	1,400	1,280	1,300
Flaxseed	105	100	110
Durum Wheat	95	90	65
Other Spring Wheat	1,900	2,230	2,200
All Sunflowers	600	520	520
All Hay	4,310	3,500	4,200

Source: South Dakota Crop & Livestock Reporter

PRICES RECEIVED BY FARMERS FOR COMMODITIES SOLD—SOUTH DAKOTA
March 1984 and March 1985

Commodity and Unit		Base Period Price 1910-1914 Average	March 1985	March 1986	March 1986 Price as % of Base	March 1986 Price Above or Below March 1985
Wheat	Bu.	0.88	3.38	3.48	409	3.0
Corn	Bu.	0.51	2.49	2.15	422	-13.7
Oats	Bu.	0.35	1.52	1.04	297	-31.6
Barley	Bu.	0.59	1.93	1.88	319	-2.6
Flaxseed	Bu.	1.68	6.48	4.98	296	-23.1
Milk, Whol.	Cwt.	1.82	1/	1/	-	-
Eggs	Doz.	0.196	1/	1/	-	-
Cattle	Cwt.	5.24	59.30	52.00	992	-12.3
Calves	Cwt.	6.08	68.90	63.90	1051	-7.3
Hogs	Cwt.	7.07	43.90	39.80	563	-9.3
Sheep	Cwt.	4.24	19.90	26.10	616	31.2
Lambs	Cwt.	5.66	69.10	65.20	1152	-5.6
Wool	Lb.	0.178	0.55	0.59	331	7.3

1/ Season average price only.

Source: South Dakota Crop & Livestock Reporter.

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS
(% Change Like Period Previous Yr.)

City	Total	Taxable Sales/1 Retail	Services	Telephone Services/2	Housing Starts/3	Postal Indicator/4	Employment*2
Aberdeen	-2.5	-0.9	-7.5	2.4		-14.1	1.7
Belle Fourche	-9.7	-8.4	-0.8	-1.0			-2.0
Brookings	-2.9	-0.5	0.8	—		-0.5	1.2
Canton	10.6	0.2	7.5	1.1			-1.7
Chamberlain	-9.8	-6.8	-11.3	0.4	228.9		2.2
Deadwood	3.1	-8.5	38.2	1.6			5.0
De Smet	-3.5	-12.4	1.8	-1.8			-0.9
Elk Point	6.9	8.4	18.4	0.1			-0.8
Hot Springs	-3.8	22.1	4.9	NA			2.4
Huron	14.7	-5.6	110.8	0.6		7.2	4.3
Lead	21.5	-11.3	91.1	-2.1			5.0
Madison	-4.5	-2.9	12.9	0.2			-3.3
Milbank	27.7	24.2	-2.7	-1.5			0.9
Mitchell	-2.2	-3.4	-5.2	0.1	-45.9	-1.8	0.0
Mobridge	-1.7	-2.9	28.6	-0.4			4.7
Pierre	-2.4	-5.1	4.0	1.1	-32.5	18.9	4.2
Rapid City	2.0	-0.5	5.5	2.4	74.6	-15.4	1.2
Sioux Falls	1.5	-2.7	5.6	2.5	-86.2	1.8	1.8
Spearfish	10.0	6.7	40.6	NA	-15.4		5.0
Sturgis	-1.1	-4.0	19.7	0.7			-4.4
Vermillion	1.8	5.5	-0.4	-3.4	127.3		5.2
Watertown	-4.3	2.7	-11.6	2.1	-31.5	7.2	1.1
Winner	-4.7	-5.6	3.5	0.6			2.5
Yankton	1.2	-3.4	5.3	-0.3		13.9	1.1

*Based on County Data

1/ Percentage change for Jan.-Feb. 1985 and 1986.

2/ Percentage change for March 1985 and 1986. Telephone data are for the number of access lines in service.

3/ Percentage change for Jan.-March of 1985 and 1986. Data reported for housing represent the value of housing starts.

4/ Percentage change for the first quarter of 1985 and 1986. Included in postal indicators are: postage stock sales, postage stamped envelopes, postage meters for customers, meter imprint postage (3rd class regular), and second class postage.

For further information contact Nancy Nelson

ADDRESS CORRECTION REQUESTED
RETURN POSTAGE GUARANTEED

Bulk Rate
Non-Profit Organ.
U.S. Postage PD
Vermillion, SD
Permit No. 14

SOUTH DAKOTA
Business Review

BUSINESS RESEARCH BUREAU
SCHOOL OF BUSINESS - USD
414 E. CLARK STREET
VERMILLION, SOUTH DAKOTA 57069

Congressional Information Service
Attn: Cheryl Waldman
Dept. SRI
4520 East West Hwy
Bethesda MD 20814-0000

Published by Business Research Bureau, The University of South Dakota

Continued from page 7

majors, 100 accounting majors and 25 other majors; of these, 32 graduated in December 1985. In addition, 20 graduate students registered with us.

During the Fall semester, 27 firms interviewed students for internships and/or full-time employment in accounting. These firms interviewed 640 students and offered 59 internships and/or full-time employment. These firms represented 33 locations. In addition, another 18 firms interviewed in the Fall for management, accounting, health services and computer science positions. They were looking for both December 1984 and May 1986 graduates. These 18 firms had 30 schedules and talked to 350 students.

In the Spring semester 52 firms were on campus and talked to over 832 students in accounting, management and computer science. In summary, 250 students registered with the Business Placement Bureau and 100 firms conducted 1836 on campus interviews. Students actively engaged in seeking employment had, on the average, seven interviews each.

Many students are making their final decisions and the employment information is changing daily. Table III shows the breakdown of 90 students that have thus far notified the Business Placement Office of their plans and where they will be located.

TABLE III
JOB LOCATIONS

	Number	Percent
South Dakota	24	26.7
Out of State	57	63.3
Graduate School or Law School	6	0.07
Following Spouse	3	0.03

CONSUMER PRICE INDEX
United States
Jan.-March 1986
(1967=100)

Item	Jan.	Feb.	March	Unadj. % Change Jan.-March
All Items	328.4	327.5	326.0	-0.7
Food & beverages	307.9	307.7	307.8	0.0
Food	315.6	315.3	315.4	-0.1
Alcoholic beverages	237.5	238.3	238.8	0.5
Housing	356.8	356.5	357.0	0.1
Shelter	393.8	394.8	397.0	0.8
Renters' costs	118.8	119.0	119.6	0.7
Homeowners' costs	116.7	117.0	117.9	1.0
Fuel & other utilities	394.6	390.0	385.5	-2.3
Fuel	484.7	476.3	467.6	-3.5
Fuel oil, coal & btld. gas	650.3	591.2	549.9	-15.4
Gas (piped) & electricity	442.6	444.5	442.3	-0.1
Other util. & Pub. Services	247.3	247.9	249.0	0.7
Household furn. & operation	248.8	249.0	249.8	0.4
Apparel & upkeep	205.0	204.1	206.3	0.6
Transportation	323.9	319.2	309.6	-4.4
Private transportation	317.3	312.2	302.1	-4.8
Public transportation	419.6	422.2	421.2	0.4
Medical care	418.2	422.3	425.8	1.8
Entertainment	270.8	272.0	271.9	0.4
Other goods and services	339.1	340.3	341.1	0.6

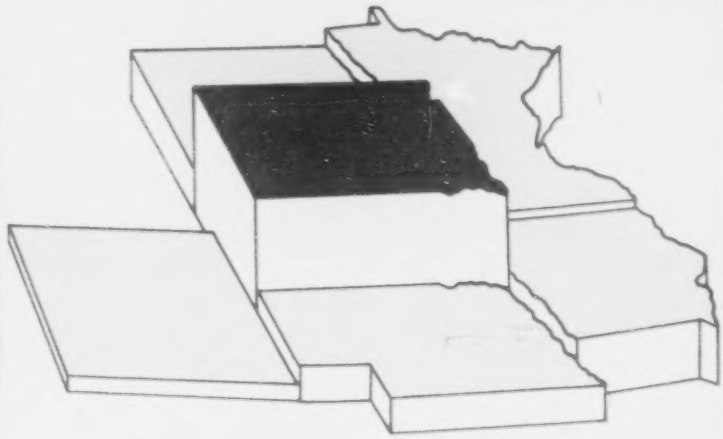
1400 printed at an estimated cost of 0.4955 each for educational purposes.

For further information contact Nancy Nelson

10/21/86 U8595-1

SOUTH DAKOTA Business Review

September 1986
Vol. XLV, No.1



Published by Business Research Bureau, The University of South Dakota

General Indicators		SOUTH DAKOTA Latest Quarter	SOUTH DAKOTA Year Ago	SOUTH DAKOTA Percent Change	UNITED STATES Latest Quarter	UNITED STATES Year Ago	UNITED STATES Percent Change
Personal Income ($ Mil.)	1986-1	7,853	7,890	-0.5	3,304,609	3,156,982	4.7
Farm Prop. Income ($ Mil.)	1986-1	393	628	-37.4	20,974	29,127	-28.0
Non-ag Employment (Thous.)	1986-2	252	251	0.4	99,837	97,295	2.6
Unemployment Rate (%)	1986-2	4.1	4.8	-14.6	7.1	7.2	-1.4
Total Employment (Thous.)	1986-2	343	336	2.1	109,370	106,958	2.3

Note: All U.S. data seasonally adjusted except for the unemployment rate and total employment. For South Dakota only personal income and farm proprietors' income are seasonally adjusted.

A STATE LOTTERY FOR SOUTH DAKOTA?

by Michael Williams and Raymond Ring*

On November 4, South Dakota voters will decide whether the State Legislature will have the option to establish a state-run lottery. Article II, Section 25 of the State Constitution now forbids "any game of chance, lottery or gift enterprise" except "when the entire net proceeds of such games of chance are to be devoted to educational, charitable, patriotic, religious or other public spirited uses." Voter approval would add the following to Section 25:

> However, it shall be lawful for the Legislature to authorize by law, a state lottery which is regulated, controlled, owned and operated by the state of South Dakota, either separately by this state or jointly or in cooperation with one or more other states. The entire net proceeds of such lottery shall be devoted to the operation of state government or such other purpose as the Legislature shall determine.

This amendment will not establish a state lottery, but it would allow the Legislature to do so if it wishes.

History of Government Lotteries

"The first reported government lottery was instituted by Caesar Augustus to rebuild Rome."[1]. Queen Elizabeth introduced a lottery in 1569 and by the 1700's they were popular throughout Europe. The Congress in 1776 provided a national lottery, and lotteries were widely used into

(continued on page 4)

*Michael Williams is City Manager of Easton, Maine, having received his Master of Public Administration degree from USD in May 1986. Raymond Ring is Associate Professor of Economics in the USD School of Business.

TABLE OF CONTENTS

A State Lottery for South Dakota
Michael Williams and Raymond Ring 1

Trend of Business 2

Effects of Geographic Proximity on Community Taxable Retail Sales
Jerry Johnson and Michael Berg 6

General Economic Tables 9-12

SOUTH DAKOTA BUSINESS REVIEW

September 1986

Business Research Bureau
School of Business
The University of South Dakota
605-677-5287

Vol. XLV, No.1

D.E. Clement, Dean, School of Business

ADVISORY COUNCIL
Robert C. Atkins, John Morrell & Co., Sioux Falls
Ben Blumenthal, Blumenthal's, Rapid City
O. Robert Brancel, Bank West, Pierre
Donald E. Culhane, Culhane's Dairy, Mitchell
Kent E. Edson, Dacotah Bank Holding Company, Aberdeen
Richard C. Erickson, Rushmore Mutual Life Insur. Co., Rapid City
Robert H. Frei, Commercial State Bank, Wagner
Kenneth B. Jones, Yankton Drug Co., Yankton
C.P. Moore, Norwest Bank, Sioux Falls
Rudolph A. Nef, Valley Queen Cheese Factory, Inc., Milbank
Jack G. Rentschler, Rentschler's Standard Truck Plaza, Sioux Falls
Jack Riordan, Mountain Company, Inc., Keystone
Walter J. Schramm, Schramm Furniture, Winner
Frank E. Short, CPA, Rapid City

BUSINESS RESEARCH BUREAU
Donald W. Lewis, Director
Randall M. Stuefen, Associate Director
Nancy Nelson, Economic Analyst
Bill Powell, Systems Analyst
DeVee Dykstra, State Data Center Director
Nancy King, Statistical Clerk
Tamara Bernard, Statistical Clerk
Mary Bartels, Administrative Secretary
Ruby Plate, Data Base Administrator
Don Greenfield, SBDC Director
Dick Barta, BIA Program Director
Anne Shank-Volk, SBDC Area Director
John Huminski, SD International Export Director
Marie Tyburec, Staff Assistant
Mary Parry, Staff Assistant

Bulk postage paid to Vermillion, South Dakota 57069. The **Review** is published quarterly in March, June, September, and December and mailed free upon request.

POSTMASTER send address changes to:
Business Research Bureau
School of Business-USD
414 East Clark
Vermillion, SD 57069-2390

The opinions expressed by our contributors may not be those of the Business Research Bureau, the School of Business, or the University of South Dakota. **The South Dakota Business Review** attempts to stimulate and inform but not to convert readers to any particular viewpoint.

Any material in the **Review** may be reproduced if credit is given.

TREND OF BUSINESS

U.S. Economy

The U.S. total employment rate--the percentage of the adult population holding jobs--experienced a record high of 60.8 percent in July 1986 compared to last year due in part to job increases in the service-producing industries and construction. The unemployment rate fell from 7.5 percent in the first quarter of 1986 to 7.1 percent in the second quarter. The July 1986 rate was 6.9 percent compared to 7.3 percent in July 1985.

Declining subsidy payments to farmers and the communications workers' strike during the second quarter of 1986 caused a slight drop in overall personal income compared to the previous quarter.

Consumers have benefited from lower prices during the first half of 1986. With the increase in consumer spending during this period, there has been a drop in the use of installment credit. A slight increase occurred in June due to financing incentives in the automobile industry.

Housing starts were up in the first half of 1986 compared to this period last year, despite a slowdown in May and June. Sales of new single-family homes rose 18 percent for the first half of 1986 compared to last year. Potential homeowners have been encouraged by lower prices and mortgage rates for new homes.

Real GNP rose only 1.1 percent in the second quarter of 1986. Declining net exports and inventories were major contributors to the weakness in GNP.

South Dakota Economy

South Dakota's total personal income fell slightly in the first quarter of 1986 compared to the previous quarter. A sharp decline in farm income (-46.0%) caused by lower federal subsidy payments and lower prices received by farmers occurred for this same period. However, South Dakota's nonfarm income, which is total personal income less farm labor and proprietor's income, increased 1.9 percent for this period. This was slightly above the US average of 1.5 percent. Contributing to this gain was an increase in nondurable manufacturing payrolls (due in part to the food processing sector) and an increase in the state and local government sector.

On a seasonally adjusted basis, nonagricultural employment in South Dakota rose nearly four percent in the second quarter of 1986 compared to the previous quarter. Employment increases occurred in services, government and manufacturing industries. The addition of specialized services in the health care field, such as outpatient services, hospices and alcohol and drug treatment programs, accounted for some of the gain in the services sector. As reported in the SD Department of Labor *Labor Bulletin*, the government sector, particularly at the local level, was strong due to the employment of primary election and summer workers.

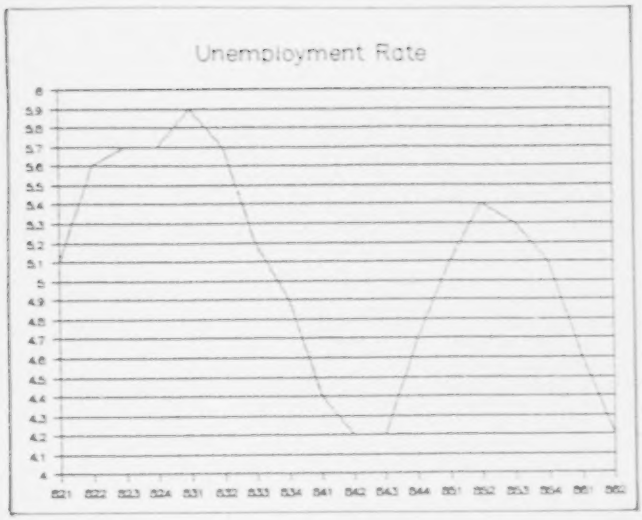
On a seasonally adjusted basis construction employment

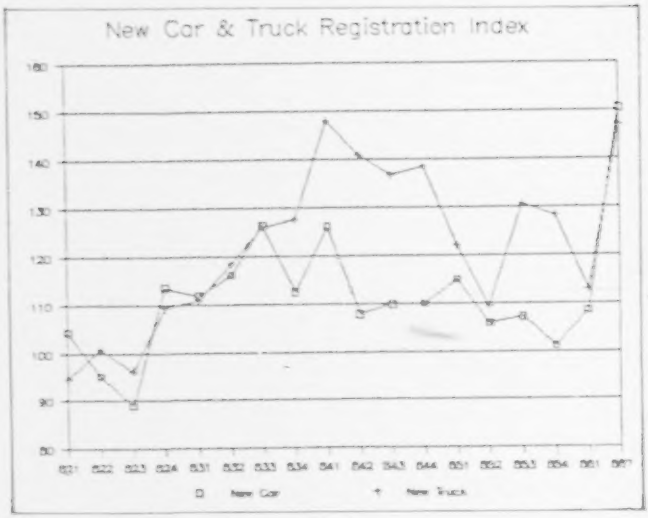
(continued on page 6)

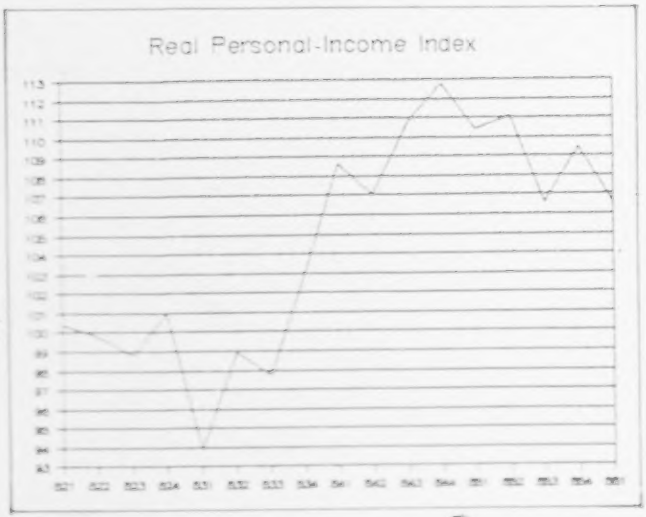
SOUTH DAKOTA BUSINESS & ECONOMIC INDICES

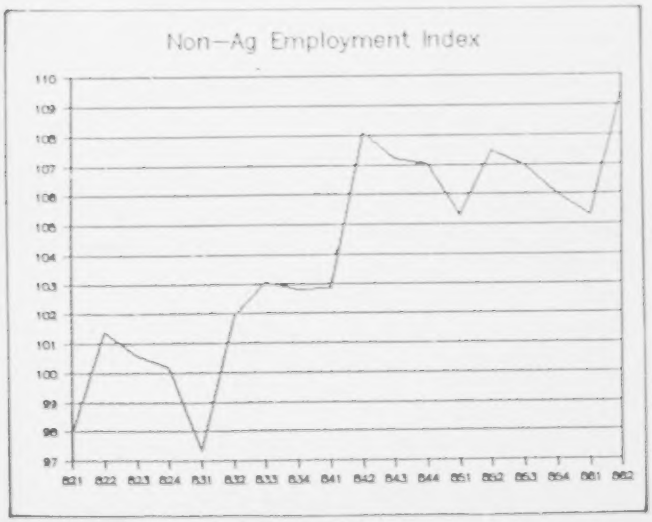
Quarterly Data 1982-1986

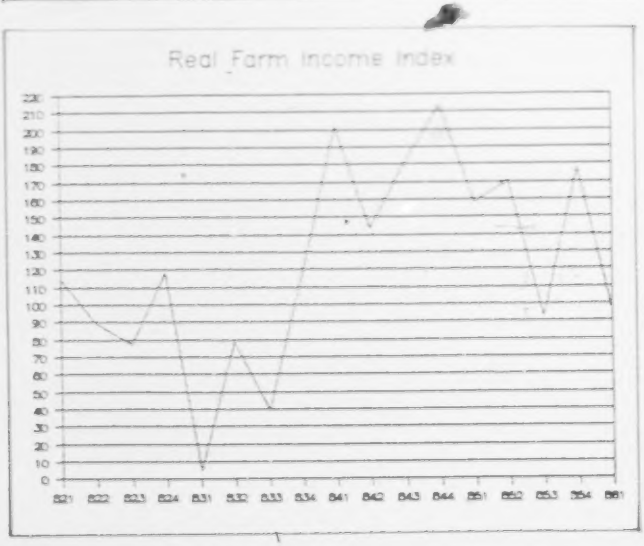
Adjusted for Seasonal Variation











the 1800's in the United States. Lottery sales receipts went to help fund the revolution, care for wounded soldiers, remodel city halls and churches, finance schools and colleges, and for other causes.[2]

> The height of the lottery mania was reached in the mid-1800's. There were over 160 lottery shops in New York City in 1826, and in Philadelphia over 200 offices were selling chances for 420 different drawings. . . . Twenty-one states gave nearly 200 licenses for private and semi private lotteries.
>
> . . . Opponents of lotteries contended they were unfair methods of obtaining revenue because they induced working people to spend scarce resources in the hope of gaining sudden wealth. It was also believed that the commitment to work was diminished by the lure of easy money through wagering, reinforcing the slothful nature of humans.[3]

Scandals and corruption also contributed to the opposition. By 1894, state and federal governments had abolished lotteries.[4]

New Hampshire revived state lotteries in 1964. By 1983, seventeen states had instituted lotteries and at least five more have started them in the last two years. State lotteries were first concentrated in the Northeastern United States. Arizona in 1980 was the first state west of the Mississippi to adopt a state lottery. More recently, the trend has moved closer to South Dakota: Colorado in 1983, Iowa in 1985, and Missouri in 1986.[5]

Operation of Lotteries

Other states' experiences provide insight as to how a lottery might be set up in South Dakota. Legislation usually creates a lottery board with an appointed commissioner meeting certain qualifications. The legislation is designed to keep the lottery free of scandal and crime, but still free to act as a business to make all possible profits and keep the consumers happy.[6]

Most states allow the creation of new and different games. In fact, continual innovation and revision seems necessary to keep lottery revenues growing, perhaps even to prevent their falling.

> New games usually enjoy good initial sales, but consumers seem to tire of them quickly. . . . States will have to hone their marketing and develop new types of games, or their revenues--and the programs they help finance--will suffer.[7]

Where does the money go? In fiscal year 1984, lottery states on average paid back 52 percent of all receipts in winnings, used four percent for administrative costs, and kept 44 percent.[8] Ten of the seventeen states put lottery revenues into their general funds. Four states funded education with the profits and the remaining provided money for transportation, capital construction, local aid, and senior citizens.[9]

Revenue Amounts

Lottery proponents stress revenue amounts and what they buy. The absolute number of dollars generated through state-sponsored gambling is impressive, but as a percentage of state revenues is quite low. In 1984 state lottery revenue totaled nearly $2.7 billion, but accounted for only two percent of those states' general expenditures. Lottery revenue as a percent of general spending exceeded three percent in three states; it was less than one percent in six states.[10]

> The most obvious fiscal conclusion about lotteries is that they contribute a small percentage of overall state revenues. . . . It appears that it might be simpler to raise the rate on one of the larger tax items than to run a lottery.[11]

The amount of revenue a South Dakota lottery would raise depends on what games would be authorized, how aggressively a lottery commission would advertise them, and how much South Dakotans would gamble. According to Representative Jim Hood from Spearfish, an instant lottery game "might" produce $4.8 million for the state coffers.[12] A 1985 South Dakota Water Congress study found that a state lottery could raise $9 million.[13]

In estimating how much money a South Dakota lottery would raise, we could assume that South Dakotans would spend the same average amounts per person as residents of lottery states spend, or that they would spend the same average proportion of their income. Using those assumptions and fiscal year 1984 data (the latest available), we estimate that a South Dakota state lottery would raise $15-20 million annually. However, a closer look at the data indicates that this estimate might be too high.

People in less populous lottery states spend less per capita and less per dollar of income than do people in more populous states. Residents of all lottery states spent an average of $65 per capita in 1984, but people in less populous states averaged only $27 per capita. This pattern is also being followed in Iowa: "after a year of operation, figures show that Iowa ranks dead last in per-person ticket purchases among states with lotteries."[14]

Less populous states' lotteries also spend proportionately more for administration, leaving less for state coffers. All lottery states together used about 4 percent of total proceeds for adminstration and kept about 43 percent for the state. Less populous states spent 11 percent for administration, keeping only 36 percent for the state.

With these two adjustments, we estimate that a South Dakota lottery would raise about $6 - 7 million, instead of the $15 - 20 million figure given above.[15]. Furthermore, lottery spending will reduce the income people have for other taxable spending (e.g., retail sales, gasoline, and alcohol), partly offsetting lottery revenues.

To put these estimates into perspective, consider that $12 million--which is about the midpoint of the range of estimates given above--is less than 7 percent of South Dakota's total sales tax collections in fiscal year 1984 and only about 1.3 percent of state government general expenditure. Raising the sales tax rate by 0.3 percent would raise more revenue.

Rate of Return and Administration Costs

A lottery can be looked upon as a state-run business, analogous to South Dakota's cement plant, Iowa's liquor stores, or a local government's water system. Lottery participants voluntarily buy a product: the chance to get rich, the exhiliration of thinking for one brief moment that this might be their lucky day. After they lose, they have the satisfaction of knowing their money went to good causes: making someone rich and supporting government activities.

One measure of business success is the rate of return on

gross receipts. In fiscal year 1984 states averaged a 43 percent rate of return on lottery receipts; less populous states averaged a 36 percent return on gross receipts. Of course, higher profit means less for the consumer: for each dollar they paid into this business they received only 52 cents (and the other benefits mentioned above). By comparison, paybacks average about 95 - 96 percent for casinos and 80 -81 percent for parimutuel betting.[16]

Lottery payments are voluntary, but they still support government, so they can be compared to other government revenue sources, including taxes. One way to evaluate a tax is to ask what it costs to collect and administer it (process returns, make sure people pay what they owe, etc.). Administration accounted for about 4 percent of all states' gross lottery receipts in fiscal year 1984 and about 11 percent of less populous states' gross lottery receipts. If we exclude prizes, which are neither administration nor state receipts, administration costs made up nearly 10 percent of all state lottery receipts and 23 percent of less populous states' receipts. By comparison, administering state sales and income taxes costs only about 1 to 2 percent of receipts from those taxes.[17]

Who Plays the Lotteries?

Critics often complain that lotteries take money from people who can least afford to play. Using the tax analogy, they contend that lotteries are regressive. Lottery proponents respond with survey data about who buys lottery tickets, such as the following:

> The average ticket buyer is a white male approximately 50 years old with an annual income of between $13,000 and $25,000.[18]
>
> The poor participate in state lottery games at levels disproportionately less than their population.[19]
>
> Over 70% of participants earn over $15,000 per year.[20]

South Dakotans make similar statements:

> Laustsen and Hood [two South Dakota legislators who favor a state lottery] said studies showed that the majority of lottery tickets are purchased by medium and high income earners.
>
> Gay Tollefson, executive director of the Water Congress . . . said her organization has studies which show that lotteries do not hurt the pocketbooks of poor people.[21]

Statements such as these indicate who is playing and what percentage of persons at each income level is playing, but they "fall short of answering the central question as to regressivity, namely, the percent of income that is taken from people at various income levels."[22] Low income people can purchase fewer tickets than middle income people, but still spend a larger percentage of their income.

A simple example stresses the point. A person with an income of $10,000 might purchase 100 one dollar tickets while a person with an income of $25,000 purchases 150 one dollar tickets. The lower income person has spent 1.0 percent of his/her income and the higher income person has spent 0.6 percent. Clearly the number of players and the amount spent is not a measure of regressivity until compared to income.

A number of studies have found lotteries to be regressive. A survey conducted for the National Commission on Gambling found that people with more income and education spent more on lottery tickets than those with less income and education, but poorer people spent proportionately more of their earnings on lotteries.[23] Surveys conducted in Connecticut, Massachusetts, Michigan, and Pennsylvania found that "absolute expenditure rises to a peak in the middle income range and then declines. . . . The tax can be said to be regressive if expenditures on the lottery rise less rapidly than income. This pattern does in fact prevail."[24] Closer to home, "sales data show that low-income Iowans spend a far greater share of their income for lottery tickets than do the wealthy."[25] Another student compared various types of gambling, and found lotteries to be less regressive than sports cards and numbers, but more regressive than horse tracks, casinos, sport books, and off track betting parlors. It concluded that "taking all potential gambling taxes combined, estimated regressivity is still considerably greater than that of sales and excise taxes."[26]

Summary and Conclusions

Government lotteries have existed for centuries and have become a much larger part of public finance in the last decade. Proponents justify public gambling by its contributions to state coffers, supported more by middle and higher income than by lower income people. In reality, lotteries do not contribute much in comparison to other revenue sources and studies that actually address regressivity conclude that lotteries are "more regressive than excise taxes on food consumed at home, tobacco, alcoholic beverages, or total consumption."[27]

Popular news magazines carry hard luck stories and success stories of lottery winners. Stories of compulsive gambling make the news along with pictures of the happy recipient of millions of dollars. Some say that gambling is inherently wrong and the government should not sponsor it. Others contend that gambling breeds corruption.

South Dakotans should examine all these issues--pro and con--before deciding on election day whether to take one more step in the direction of state-sponsored lotteries.

END NOTES

[1]Robert Mote, "Economic Benefits from a State Lottery," *Scientific Games Magazine*, May 1984, p. 27.

[2]Herbert L. Marx, Jr., *Gambling in America* (New York: H.J. Wilson Company, 1952), pp. 61-62.

[3]H. Roy Kaplan, "The Social and Economic Impact of State Lotteries," *Annals of the American Academy of Political and Social Science* 474 (July 1984), p. 93.

[4]Kevin F. Winch, et. al., "Overview of State Lottery Operations," Congressional Research Service report prepared for Subcommittee on Intergovernmental Affairs of the Committee on Governmental Affairs, Sept. 25, 1984, printed in *State Lotteries: An Overview*, Hearing before the Subcommittee on Intergovernmental Relations of the Committee on Governmental Affairs, United States Senate, 98th Congress, second session, Oct. 3, 1984 (Washington, DC: Government Printing Office), p. 587.

[5]Final Joint Lottery Subcommittee Report [Louisiana Legislature], April 5, 1983, printed in *State Lotteries: An Overview*, p. 353, and Tom Ichniowski, "Lotteries: Hoping the Luck Will Last," *Business Week*, Sept. 9, 1985, p. 39.

[6]Final Joint Lottery Subcommittee Report., pp. 358-60.

[7]Ichniowski, p. 39.

(continued on page 8)

(continued on page 5)

[8]U.S. Department of Commerce, Bureau of the Census, *State Government Finances in 1984*, Series GF84-No. 3 (Washington, DC: Government Printing Office, Oct. 1985), p. 55.

[9]Final Joint Lottery Subcommittee Report, pp. 357-58.

[10]*State Government Finances in 1984*, pp. 20 and 55.

[11]David Weinstein and Lillian Deitch, *The Impact of Legalized Gambling: The Socioeconomic Consequences of Lotteries and Off-Track Betting* (New York: Praeger Publishers, 1974), p. 72.

[12]"Lottery Bill One Step from Governor's Desk," Sioux Falls *Argus-Leader*, Feb. 20, 1986, p. 1B.

[13]"Two Eastern State Lawmakers Support Lottery," Sioux Falls *Argus-Leader*, Dec. 2, 1985, p. 1B.

[14]"Hooked on the Lottery?" Des Moines *Register*, August 21, 1986, p. 1C.

[15]"Less populous states" in this and the next section means the five least populous lottery states: Delaware, Maine, New Hampshire, Rhode Island, and Vermont. This is a somewhat arbitrary choice. Including more or fewer states would change the estimates, as would a different criterion for selecting states. For example, using the five lottery states with lowest population density, we estimate $6 - 8 million. Using the five least urbanized lottery states, we estimate $18 - 21 million. The latter estimate may be too high, as it is dominated by Pennsylvania, which has high per capita lottery spending and high total receipts, but is hardly similar to South Dakota. If nothing else, the wide disparities illustrate the great uncertainty in this type estimate.

[16]Vicki Abt, James F. Smith, and Eugene Martin Christiansen, *The Business of Risk: Commercial Gambling in Mainstream America* (Lawrence, KS: University Press of Kansas, 1985), p. 224. The figures are for calendar year 1983.

[17]J. Richard Aronson and John L. Hilley, *Financing State and Local Governments* (Washington, DC: Brookings Institution, 1986), p. 101.

[18]Summary of testimony by John Quinn, Executive Director of New York State Lottery and President of the National Association of State Lotteries, in Final Joint Lottery Subcommittee Report, p. 365.

[19]Summary of testimony by Dan Bower, President of Scientific Games, Inc. (a firm that provides lottery services), ibid., p. 377.

[20]Ibid.

[21]Richard Bale, "Lawmakers to Consider State Lottery," Sioux Falls *Argus-Leader*, February 21, 1986, p. 2A.

[22]Frederick D. Stocker, "State Sponsored Gambling as a Source of Revenue," *National Tax Journal* 25 (September 1972), p. 439.

[23]Commission on the Review of the National Policy Toward Gambling, *Gambling in America* (Washington, DC: Government Printing Office, 1976), pp. 155-56.

[24]Roger Brinner and Charles Clotfelter, "An Economic Appraisal of State Lotteries," *National Tax Journal 28* (December 1975), p. 399.

[25]"Hooked on the Lottery?", p. 1C.

[26]Daniel Suits, "Gambling Taxes: Regressivity and Revenue Potential," *National Tax Journal 30* (March 1977), p. 34.

[27]Charles T. Clotfelter, Statement to the Senate Subcommittee on Intergovernmental Relations, Committee on Governmental Affairs, October 3, 1984, printed in *State Lotteries: An Overview*, p. 323.

(Trend of Business--continued from page 2)

fell slightly (-1.6%) in the second quarter of 1986 compared to the previous quarter. On a month-by-month basis, construction employment has shown increases from March 1986 through June 1986.

South Dakota's unemployment rate was 4.2 percent in the second quarter of 1986 compared with 4.6 percent in the first quarter of 1986. It was well below the second quarter 1985 figure of 5.4 percent.

Sales of new cars and trucks were strong in the second quarter of 1986 compared to the previous quarter. The effect of low interest loans for new vehicles is evident. On a seasonally adjusted basis new car and truck sales rose 39.1 percent and 30.3 percent respectively.

Further comparisons of these indices are included in the following table.

South Dakota Business Indices
1985 - 1986
Seasonally Adjusted (1982=100)

	1985				1986	
	1st qtr	2nd qtr	3rd qtr	4th qtr	1st qtr	2nd qtr
Personal Income	110.4	111.1	106.6	107.5	106.6	---
Farm Proprietors Income	158.5	170.3	92.5	178.0	96.2	---
Non-ag Employment	105.3	107.4	107.9	106.0	105.3	109.4
Construction Employment	116.7	118.9	118.8	121.7	119.8	117.9
Unemployment Rate (%)	5.1	5.4	5.2	5.1	4.6	4.2
New Cars	114.9	105.8	107.1	101.3	108.1	150.4
New Trucks	121.8	109.3	130.7	128.2	112.8	147.0

EFFECTS OF GEOGRAPHIC PROXIMITY ON COMMUNITY TAXABLE RETAIL SALES

Jerry W. Johnson, Ph.D. and Michael Berg

INTRODUCTION

Many factors have been identified in the literature as influencing the level of taxable sales in a community. For community leaders, it is important to identify and understand these factors in order that community investments in development can fully utilize the known strengths of the community. For those living in the communities, it is equally important.

The economy of a community is driven by its resource base including its people, land, and machines. Goods or

services are produced which when sold provide income to the resource owners. After taxes and savings, what remains is the portion that is spent and becomes the taxable retail sales of the community. In addition to the internal resources of a community, its relative geographical location is also important to its ability to attract spending from outside the community.

This article addresses three geographic considerations which, it is hypothesized, affect a community's taxable retail sales. First, the importance of a community lying on/or near an interstate highway; secondly, the importance of having a shopping mall or being geographically located near one; and finally, in a tertiary sense, the impact of being close to a tourist attraction. Estimates of the impacts are provided.

METHODOLOGY

The method of linear regression is used to test the hypothesis that, in addition to the level of total personal income in a community determining its taxable sales, they are further determined by 1) whether the community is located on an interstate, 2) whether the community has a mall or is within 25 miles of one, and 3) whether it has a tourist attraction located within its boundaries. The taxable sales of a cross-section of eighty nine (89) communities were used in the statistical analysis as the quantity to be explained by regression. All of the top 66 cities in population were included in the sample. The remaining were selected on the basis of whether they were either on/or near an interstate highway. Though the cities were not randomly selected, as might be desired, it was felt that they were representative. The equation estimated using linear regression was specified as follows.

$$TXSAL_t = a + b*INC_t + c*MALL_t + d*INT_t + e*TOUR + e*SIZE + t$$

This equation states that the level of taxable sales (TXSAL) in the t^{th} community is linearly determined by 1) the level of total personal income in the community (INC), 2) a variable to reflect proximity to a mall (MALL), 3) an interstate variable (INT), 4) a tourist attraction binary variable, and 5) two binary variables to reflect relative size of the community (SIZE). The lower case t refers to the community.

Total personal income for the community was obtained by multiplying the county per capita personal income for 1983, as published by the Bureau of Economic Analysis, Department of Commerce, by the city population. This technique was necessitated since the Department of Commerce does not publish city specific income data. A priori, it is expected that income and taxable retail sales will be positively related.

Two mall proximity variables are used and each are reported in separate regressions. The first reflects whether a mall exists within 25 miles of a community which does not have a mall. The second reflects the number of miles to the closest mall. The expected relationship between taxable retail sales and the first mall variable is negative and the second is positive.

Similarly, two alternative variables were used to capture the effects of the proximity of an interstate. The first designates whether a community borders on/or near an interstate. The second is an interaction variable which suggests that it is the size of the community plus bordering on/or near an interstate which plays a role in determining taxable sales. The latter variable was used in the regression analyis and a positive relationship is expected in each case.

The pull factor for each of the communities was computed. The pull factor is computed by dividing town per capita retail sales by average state per capita retail sales. It may be interpreted as a measure of full-time equivalent customers. For example, if a communities' pull factor is equal to 1.5 it would mean that the community has attracted the equivalent of 150 percent of the town's population in full-time equivalent customers. The pull factor in five communities in the state exceeded 2.00, or stated differently, had retail sales of the equivalent of 200 percent of the town's population in full-time equivalent customers. Of the five, four were communities with a dominant tourist attraction. To account for the dominance a binary variable was included. Again, a positive relationship is expected. Though not a particularly strong measure of tourism impacts, it does provide some insights.

Finally, two binary variables were used to designate community size.

THE MODEL RESULTS

Two models were estimated. One (Model I), using as a mall proximity variable, whether a community which did not have a mall, was within 25 miles, and the second model (Model II) using the miles to the closest mall as the mall proximity variable. Though the models are not significantly different, they do provide differing insights.

The results of the model II are as follows.

TABLE I
Regression Results
Model I

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT
CONSTANT	142.33022	1051.5543	0.1353522
INCOME	0.0006711	0.0000245	27.432778
MALL25	-4993.6830	1755.8454	-2.8440333
TOUR	11889.118	3329.7667	3.5705560
INT	0.4308232	0.2813913	1.5310467
DUMSIZE1	199309.72	16112.020	12.370250
DUMSIZE2	21269.774	3933.5637	5.4072529

R-SQUARED	.996170
ADJUSTED R-SQUARED	.995889
S.E. OF REGRESSION	7182.24
F-STATISTIC	3554.33

TABLE II
Regression Results
Model II

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT
CONSTANT	-4018.4627	1391.6228	-2.8876092
INCOME	0.0006711	0.0000247	27.141032
MALL25	60.987695	24.505829	2.4887016
TOUR	12031.500	3363.6644	3.5769026
INT	0.4461313	0.2847048	1.5669958
DUMSIZE1	202497.77	16272.652	12.444054
DUMSIZE2	25334.434	4073.5807	6.2192052

R-SQUARED	.996087
ADJUSTED R-SQUARED	.995801
S.E. OF REGRESSION	7258.997
F-STATISTIC	3479.284

(continued on page 8)

INTERPRETATION OF RESULTS

Economic Variable - The impact of the economic variable, income is, as expected, positive and the same in both models. For each dollar of total personal income, on the average, taxable retail sales is sixty seven cents ($0.67). This should not be interpreted as a multiplier, as taxable sales is not a traditional expenditure variable plus the equation does not address the leakages and injections to the expenditure stream.

Mall Proximity Variable - In Model I, the mall proximity variable was MALL25. The estimated coefficient was -4993.68. This may be interpreted as stating that, on the average, in those communities that do not have a mall, if they are within 25 miles of another mall they will experience a loss in taxable retail sales of approximately 4.99 million dollars relative to similar communities that are not within 25 miles. Statistically, this is shown to be a very strong relationship. Model II used the number of miles to the closest mall as a measure of proximity. Statistically, the relationship was again found to be very stong. The coefficient attached to MILMAL was 60.987 which means that on the average, for each additional mile further away from a mall that a community lies, in South Dakota, the community will have $60,000 in additional taxable retail sales. In summary, proximity to another community which has a mall, is a very important determinate of city taxable retail sales.

Tourist Attraction - On the average, the study shows that in the four communities which had pull factors of greater than 2.00 and are dominated by tourist attractions, taxable retail sales in those communities tended to be significantly higher than in other communities of a similar size. Specifically, the communities of Custer, Wall, Oacoma and Murdo show taxable retail sales of approximately 11 to 12 million more than similar sized towns. Though no effort was made to more thoroughly study the impact of tourist attractions, the above evidence suggests its importance.

Proximity to Interstate Highway - Though not as strong statistically as the other determinates in the equation, the study shows that bordering on or near an interstate highway is important. It was further shown that it is the combination of size and bordering on/or near an interstate highway which is important. In other words, though it was shown that simply lying on the interstate is important, it is more important that the community also be a larger community. The results can be interpreted as showing that a community bordering on/or near an interstate will have $430 taxable retail sales per person more than a community not bordering the interstate. Stated differently, being on/or near the interstate is worth about $430 per community member, on the average. Though not tested, it is likely that the statistical weakness was due to non-linearity in the relationship.

Size - The large differences in population was accounted for by including two binary variables. The first binary (dummy1) included the three largest cities, which on the average had about 200 million more taxable sales than the average community in the state. The second binary (dummy 2) was the next six largest cities, which on the average, show about 25 million more taxable retail sales than the state average.

The model statistical measures were all favorable. The adjusted R-square of .99 is acceptable as is the F-statistic. The lowest standard error of regression was obtained on Model I. No test for heteroscadasticity was run as the residual patterns suggested that it should not be necessary.

LIMITATIONS

As in most empirical studies, there are study limitations. Below is a list of the limitations of this study, that those who may wish to pursue the issues further will be aware of potential constraints.

a. The population figures are from the 1980 census. Future researchers might want to use projected figures to more nearly reflect current conditions.

b. The taxable retail sales figures are for 1985 which do not match up with the population figures.

c. It was not always possible to include all communities lying on the interstates due to data limitations.

SUMMARY AND CONCLUSIONS

This article has provided evidence of the impact of several geographic proximity factors on the taxable sales of a community. In each case, statistically estimated measures of the impact have been offered.

Particularly important was the proximity of a mall. It was shown that if a community does not have a mall, but is within twenty-five (25) miles of one, relative to other communities of an equal size and income, the community's taxable sales will be approximately $4.9 million less.

Secondly, though statistically less significant, proximity to an interstate was shown also to be of importance to the community. Those communities on or near an interstate, on the average, had $430 more taxable sales per person than the communities off the interstate system.

Finally, the impact on taxable sales of a community dominated by a tourist attraction was shown.

REFERENCES

Ingene, Charles A. and Eden S.H. Yu, *Determinates of Retail Sales in SMSAs, Regional Science and Urban Economics*, 529-547, 1981.

Stone, Kenneth E. and James C. McConnon, Jr., *The Effect of Shopping Centers on Host Towns and Outlying Areas*, Presented at the 1982 AAEA meetings, Logan, Utah. Iowa State University, Ames, Iowa, 1982.

Berry, Brian J.L., *Geography of Market Centers and Retail Distribution*, Englewood Cliffs, N.J.: Prentice Hall, Inc., 1967.

Kmenta, J., *Elements of Econometrics*, New York: Macmillan.

About the authors: Jerry W. Johnson, Ph.D., is Professor of Economics and Director of Faculties at the School of Business, University of South Dakota, Vermillion, SD.

Michael Berg received his Master of Business Administration from the University of South Dakota in August 1986.

TAXABLE SALES
Counties and Selected Cities in South Dakota
Jan.-June, 1985 and 1986
(In $000's)

REGION I

	Jan.-June 1985	Jan.-June 1986	% Change
Brookings	51,440	51,440	0.0
Brookings	47,579	46,998	-0.8
Elkton	960	981	2.2
Volga	1,560	1,656	6.2
Clark	5,256	5,149	-2.0
Clark	4,053	4,035	-0.4
Codington	73,697	73,324	-0.5
Watertown	71,240	71,001	-0.3
Deuel	7,167	6,991	-2.5
Clear Lake	5,255	4,977	-5.3
Day	511	546	6.8
Webster	888	895	0.8
Grant	18,707	20,504	9.6
Big Stone C.	1,556	1,692	8.7
Milbank	16,120	17,854	10.8
Hamlin	5,722	5,583	-2.4
Bryant	1,165	1,232	5.8
Castlewood	565	560	-0.9
Estelline	1,510	1,479	-2.1
Hayti	1,129	1,083	4.8
Kingsbury	9,691	9,510	-1.9
Arlington	2,695	2,683	-0.4
De Smet	4,059	4,145	2.1
Lake Preston	1,526	1,363	-10.7
Lake	21,447	21,516	0.3
Madison	19,955	19,969	0.1
Miner	4,096	4,129	0.8
Howard	5,200	5,226	0.5
Moody	15,254	15,453	1.4
Colman	8,006	8,176	2.1
Flandreau	4,277	4,761	-0.5
TOTAL	250,458	251,602	0.5

REGION II

	Jan.-June 1985	Jan.-June 1986	% Change
Clay	20,601	21,369	3.7
Vermillion	18,272	18,934	3.6
Lincoln	15,205	15,564	2.4
Canton	5,576	6,763	22.2
Lennox	5,572	5,269	-5.1
McCook	7,985	7,703	-3.5
Bridgewater	1,048	1,113	6.2
Canistota	925	878	-5.1
Salem	4,894	4,627	-5.5
Minnehaha	439,226	449,476	2.3
Baltic	1,013	953	-5.9
Brandon	2,967	3,001	1.1
Colton	1,142	1,129	-1.1
Dell Rapids	4,423	4,500	1.7
Garretson	2,005	2,181	4.1
Hartford	1,068	1,161	8.7
Sioux Falls	413,216	422,056	2.1
Turner	10,443	10,455	0.1
Centerville	1,476	1,528	4.2
Marion	3,691	3,891	5.4
Parker	1,921	1,826	-4.9
Union	12,762	13,519	5.9
Alcester	1,353	1,546	5.8
Beresford	4,609	4,905	6.4
Elk Point	2,774	2,722	-1.9
TOTAL	506,222	518,086	2.3

REGION III

	Jan.-June 1985	Jan.-June 1986	% Change
Aurora	5,350	4,995	-6.6
Plankinton	3,289	3,322	1.0
Bon Homme	10,076	10,317	2.4
Avon	1,931	1,873	-3.0
Scotland	1,826	1,901	4.1
Springfield	1,295	1,638	26.5
Tabor	1,776	1,774	-0.1
Tyndall	2,885	2,768	4.1
Brule	11,858	11,818	-0.3
Chamberlain	9,525	9,556	0.3
Kimball	2,928	1,960	-5.6
Charles Mix	14,218	14,640	3.0
Geddes	456	459	0.7
Lake Andes	2,082	2,333	12.1
Platte	6,370	6,104	-4.2
Wagner	4,673	5,225	11.8
Davison	57,980	59,058	1.9
Mitchell	56,748	58,067	2.3
Douglas	4,878	5,077	4.1
Armour	2,259	2,345	3.8
Corsica	1,938	2,046	11.1
Gregory	9,584	9,450	-2.5
Burke	2,278	2,343	2.9
Gregory	4,910	4,731	-3.6
Hanson	2,224	2,362	6.2
Alexandria	1,308	1,525	16.6
Emery	884	802	-9.3
Hutchinson	14,423	14,679	1.9
Freeman	5,531	5,713	3.3
Menno	2,057	2,065	0.4
Parkston	4,426	4,726	2.2
Tripp	1,498	1,413	5.7
Dewald	3,737	3,621	3.1
Wess. Sprgs.	3,551	3,174	5.3
Gaddon	2,736	2,478	-10.9
Mitchell	1,971	1,911	-3.1
Yankton	51,662	52,596	1.8
Yankton	49,764	50,892	2.3
TOTAL	188,786	191,081	1.2

REGION IV

	Jan.-June 1985	Jan.-June 1986	% Change
Beadle	46,284	52,422	13.3
Huron	45,692	49,792	14.0
Brown	114,229	115,398	1.0
Aberdeen	107,223	107,992	0.7
Groton	3,122	3,093	-0.9
Day	11,270	10,976	-2.6
Bristol	705	665	-5.4
Mackay	499	463	-5.2
Webster	8,829	8,673	-1.7
Edmunds	6,905	6,851	-1.1
Bowdle	1,397	1,550	11.0
Hosmer	789	667	-15.5
Ipswich	5,543	5,432	-4.5
Roscoe	956	965	0.9
Faulk	3,723	3,849	3.4
Faulkton	2,490	2,564	3.0
Hand	8,590	8,290	-3.5
Miller	7,708	7,452	-3.3
McPherson	4,712	4,490	-4.7
Eureka	3,514	3,247	-7.6
Leola	953	1,007	5.7
Marshall	6,825	6,813	-0.2
Britton	4,890	4,842	-1.0
Roberts	13,091	13,004	-0.7
Sisseton	8,100	7,867	-2.9
Wilmot	1,783	1,674	-1.7
Spink	11,827	11,918	0.8
Doland	559	464	-13.9
Redfield	9,930	9,922	-0.1
TOTAL	227,206	234,002	3.0

REGION V

	Jan.-June 1985	Jan.-June 1986	% Change
Buffalo	115	116	0.9
Campbell	2,672	2,705	1.2
Herreid	1,521	1,455	-4.3
Pollock	936	1,045	11.6
Corson	1,590	1,730	8.8
McIntosh	490	464	-5.3
McLaughlin	503	604	13.3
Dewey	6,241	6,159	-1.3
Eagle Butte	4,057	4,056	0.0
Isabel	686	693	1.3
Timber Lake	1,091	1,042	-4.5
Haakon	5,626	5,288	-6.0
Philip	5,030	4,786	-4.9
Hughes	47,478	47,293	-0.4
Blunt	1,523	1,316	-13.6
Fierre	45,680	45,624	-0.1
Hyde	3,815	4,042	6.0
Highmore	5,756	5,967	6.2
Jones	5,155	5,118	-0.3
Murdo	4,799	4,745	-1.2
Lyman	5,830	5,740	-1.5
Presho	1,532	1,562	2.0
Mellette	1,415	1,459	3.1
White River	1,207	1,292	7.0
Perkins	9,174	8,810	-3.5
Lemmon	7,137	6,967	-2.4
Potter	7,358	6,880	-6.5
Gettysburg	5,250	4,933	6.0
Hoven	1,674	1,682	2.9
Stanley	5,895	5,847	-0.8
Ft. Pierre	5,822	5,778	-0.8
Sully	2,945	2,637	-11.5
Onida	2,573	2,311	-10.2
Tripp	16,123	16,405	1.7
Winner	15,435	15,725	1.9
Todd	4,373	4,484	2.5
Mission	3,879	3,869	-0.3
Walworth	18,369	18,141	-1.2
Mobridge	13,045	12,886	-1.2
Selby	3,363	3,411	1.4
Ziebach	991	1,013	2.2
Dupree	938	932	-0.6
TOTAL	145,105	143,838	-0.9

REGION VI

	Jan.-June 1985	Jan.-June 1986	% Change
Bennett	5,193	5,056	-2.5
Martin	5,086	4,965	-2.4
Butte	17,788	17,822	0.2
Belle Fche.	15,632	15,593	-0.2
Newell	2,581	2,519	-2.4
Custer	11,317	11,314	0.0
Custer	10,669	10,623	-0.4
Fall River	12,874	12,389	-3.8
Edgemont	2,353	2,270	-4.9
Hot Sprgs.	9,898	9,559	-3.4
Harding	1,974	1,474	-25.3
Buffalo	1,773	1,275	-28.1
Jackson	3,631	3,985	9.7
Kadoka	2,763	2,999	8.5
Lawrence	45,487	49,274	8.3
Deadwood	8,568	8,056	-5.7
Lead	9,044	12,342	24.1
Spearfish	19,357	21,527	9.0
Whitewood	1,298	1,013	-22.0
Meade	21,029	21,430	1.9
Faith	2,365	2,334	-1.3
Sturgis	15,103	15,797	4.6
Pennington	283,314	299,811	5.8
Rapid City	254,391	269,622	6.0
Wall	11,165	10,012	-10.3
Shannon	2,014	2,012	-0.1
Pine Ridge	337	296	-12.2
Washabaugh	179	47	-73.7
TOTAL	404,611	424,633	4.9
STATE TOTAL	1,682,668	1,723,242	2.4

SOUTH DAKOTA INCOME AND EMPLOYMENT

TOTAL PERSONAL INCOME
United States, Plains Region and States
First Quarter 1985-First Quarter 1986
(Millions of Dollars, Seasonally Adjusted at Annual Rates)

	1985 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1986 1st Qtr.	% Change 1st Qtr. 1985 1st Qtr. 1986
United States	3,156,982	3,193,455	3,207,892	3,268,061	3,304,609	4.7
Plains States	230,636	234,399	230,142	237,981	235,790	2.2
Iowa	36,605	37,808	35,513	37,608	36,931	0.9
Kansas	33,886	34,244	34,134	35,173	34,449	1.7
Minnesota	58,085	59,130	58,354	60,212	59,848	3.0
Missouri	63,323	64,127	64,507	65,144	66,040	4.3
Nebraska	21,807	22,425	21,076	22,612	22,045	1.1
North Dakota	9,039	8,650	8,811	9,186	8,624	-4.6
South Dakota	7,890	8,013	7,747	8,046	7,853	-0.5

Note: Detail may not add to totals because of rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

SOUTH DAKOTA NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
June 1985 and June 1986
(In Thousands)

	June 1985	June 1986	% Change	Average Weekly Hours June 1985	Average Weekly Hours June 1986	Average Hourly Earnings June 1985	Average Hourly Earnings June 1986
Total Employment	255.0	256.3	0.5				
Mining	2.5	2.4	-4.0				
Construction	10.6	10.1	-4.7				
Manufacturing	28.2	28.6	1.4	42.90	42.10	$7.34	$7.78
Durable Goods	15.4	15.6	1.3	41.80	42.20	$7.28	$7.35
Fabricated Metals & Mach.	9.3	9.4	1.1				
Nondurable Goods	12.8	13.0	1.6	44.40	42.00	$7.42	$8.35
Food & Kindred Products	7.4	7.6	2.7				
Paper, Printing & Publishing	2.7	2.8	3.7				
Transportation & Pub. Utilities	12.6	12.1	-4.0				
Transportation	7.2	7.1	-1.4				
Communication	3.0	2.6	-13.3				
Electric/Gas/Sanitary Services	2.4	2.3	-4.2				
Wholesale & Retail Trade	67.7	67.7	0.0				
Wholesale Trade	16.7	16.4	-1.8				
Durable Goods	7.7	7.1	-7.8				
Nondurable Goods	9.0	9.3	3.3				
Retail Trade	50.9	51.3	0.8				
Finance, Insurance & Real Estate	14.2	14.1	-0.7				
Services	59.7	60.6	1.5				
Hotels, Amuse., Pers. & Business	16.9	17.2	1.8				
Medical & Health	22.6	23.2	2.7				
Educational, Membership & Social	16.5	16.6	0.6				
Government	59.5	60.9	2.4				
Federal	10.6	10.8	1.9				
State	16.0	16.2	1.3				
State Education	5.7	5.7	0.0				
Local	32.9	33.8	2.7				
Local Education	17.5	17.6	0.6				

Source: South Dakota Department of Labor

For further information contact Nancy Nelson

SOUTH DAKOTA AGRICULTURAL INDICATORS

SOUTH DAKOTA CROP PRODUCTION
Summary, 1985 and 1986
(As of Aug. 1, 1986)
(000's Bushels)

	Production 1985	Production 1986
Corn, grain	252,000	237,600
Sorghum, grain	15,000	16,450
Oats	79,520	60,000
Barley	32,400	39,150
Soybeans	40,640	42,880
Flaxseed	1,335	1/
Durum Wheat	2,635	2,048
Other Spring Wheat	64,500	61,500
Sunflowers 3/	609,940	2/
All Hay 4/	4,830	7,340

1/ Flaxseed production forecast is discontinued.
2/ The first production forecast will be released in November.
3/ Production is in 1,000 pounds.
4/ Production in tons.

Source: South Dakota Crop & Livestock Reporter

PRICES RECEIVED BY FARMERS FOR COMMODITIES SOLD--SOUTH DAKOTA
June 1985 and June 1986

Commodity and Unit		Base Period Price 1910-1914 Average	June 1985	June 1986	June 1986 Price as % of Base	June 1986 Price Above or Below June 1985
Wheat	Bu.	0.85	3.42	2.81	331	-17.8
Corn	Bu.	0.51	2.51	2.12	416	-15.5
Oats	Bu.	0.35	1.34	1.03	294	-23.1
Barley	Bu.	0.59	1.88	1.50	254	-20.2
Flaxseed	Bu.	1.68	6.49	5.10	304	-21.4
Milk, Whol.	Cwt.	1.82	1/	1/	-	-
Eggs	Doz.	0.196	1/	1/	-	-
Cattle	Cwt.	5.24	52.80	48.30	922	-8.5
Calves	Cwt.	6.08	67.80	59.60	980	-12.1
Hogs	Cwt.	7.07	43.40	51.70	731	19.1
Sheep	Cwt.	4.24	18.30	22.50	531	23.0
Lambs	Cwt.	5.66	70.40	74.00	1307	5.1
Wool	Lb.	0.178	0.56	0.75	421	33.9

1/ Season average price only.

Source: South Dakota Crop & Livestock Reporter.

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS

SOUTH DAKOTA LOCAL CONDITIONS INDICATORS
(% Change Like Period Previous Yr.)

City	Total	Taxable Sales/1 Retail	Services	Telephone Services/2	Housing Starts/3	Postal Indicator/4	Employment*/2
Aberdeen	2.5	9.3	-5.7	2.7	-66.7	-5.5	3.0
Belle Fourche	11.1	9.9	32.5	-1.1	-46.7		-5.3
Brookings	-0.3	-1.2	-3.4		-39.9	-5.8	1.3
Canton	26.7	15.0	37.9	1.3			-2.1
Chamberlain	4.5	13.0	-2.7	1.7	117.4		0.4
Deadwood	0.8	-2.5	8.3	1.4			0.2
De Smet	9.0	-4.5	16.4	-0.5			1.3
Elk Point	-8.0	-3.5	6.9	1.2			1.0
Hot Springs	1.1	16.3	17.1				2.3
Huron	15.9	0.4	94.0	0.8	3773.4	9.3	1.5
Lead	27.8	-3.9	20.7	-1.4			0.2
Madison	7.2	2.4	5.9	0.3			-0.5
Milbank	3.3	-8.2	15.1	-1.3	151.0		2.4
Mitchell	6.3	0.5	0.6	-0.1	-22.1	11.9	-0.8
Mobridge	-0.2	0.4	41.0	-1.5			0.9
Pierre	4.4	-0.6	8.4	1.4	152.9	49.5	5.0
Rapid City	9.8	10.3	7.4	1.7	22.5	15.5	3.2
Sioux Falls	2.0	1.3	-7.1	2.8	-20.3	1.0	3.4
Spearfish	8.7	7.8	24.6		11.1		0.2
Sturgis	11.3	17.1	-10.0	1.2			-2.4
Vermillion	7.0	14.7	-10.3	-1.2	-80.6		-0.5
Watertown	0.8	0.5	-8.8	0.9	-62.3	21.2	2.6
Winner	9.4	4.4	10.1	1.1			-1.4
Yankton	5.1	0.9	12.1	0.7	118.1	27.5	0.9

*Based on County Data

1/Percentage change for May-June 1985 and 1986.

2/Percentage change for June 1985 and 1986. Telephone data are for the number of access lines in service.

3/Percentage change for Jan.-June of 1985 and 1986. Data reported for housing represent the value of housing starts.

4/Percentage change for the second quarter of 1985 and 1986. Included in postal indicators are: postage stock sales, postage meters for customers, meter imprint postage (3rd class regular), and second class postage.

For further information contact Nancy Nelson

ADDRESS CORRECTION REQUESTED
RETURN POSTAGE GUARANTEED

Bulk Rate
Non-Profit Organ
U.S. Postage PD
Vermillion, SD
Permit No. 14

SOUTH DAKOTA
Business Review

BUSINESS RESEARCH BUREAU
SCHOOL OF BUSINESS - USD
414 E. CLARK STREET
VERMILLION, SOUTH DAKOTA 57069

Congressional Information Service
Attn: Cheryl Waldman
Dept. SRI
4520 East West Hwy
Bethesda MD 20814-0000

Published by Business Research Bureau, The University of South Dakota

CONSUMER PRICE INDEX
United States
Jan.-June 1986
(1967=100)

Item	Jan.	Feb.	March	April	May	June	% Change Jan.-June
All Items	328.4	327.5	326.0	325.3	326.3	327.9	-0.2
Food & beverages	307.9	307.7	307.8	308.5	309.4	309.5	0.5
Food	315.6	315.3	315.4	316.1	317.0	317.1	0.5
Alcoholic beverages	237.5	238.3	238.8	239.5	239.4	240.1	1.1
Housing	356.8	356.5	357.0	358.0	358.5	361.2	1.2
Shelter	393.8	394.8	397.0	400.1	400.9	401.6	2.0
Renters' costs	118.8	119.0	119.6	120.9	121.1	121.6	2.4
Homeowners' costs	116.7	117.0	117.9	118.7	118.9	119.0	2.0
Fuel & other utilities	394.6	390.0	385.5	381.8	382.5	393.8	-0.2
Fuel	484.7	476.3	467.6	459.6	460.6	477.0	-1.6
Fuel oil, coal & btld. gas	650.3	591.2	549.9	518.3	496.8	486.6	-25.2
Gas (piped) & electricity	442.6	444.5	442.3	439.2	444.6	466.0	5.3
Other util. & Pub. Services	247.3	247.9	249.0	251.3	251.5	255.2	3.2
Household furn. & operation	248.8	249.0	249.8	249.6	249.9	250.2	0.6
Apparel & upkeep	205.0	204.1	206.3	207.3	206.4	204.5	-0.2
Transportation	323.9	319.2	309.6	303.3	305.7	308.6	-4.7
Private transportation	317.3	312.2	302.1	295.3	297.8	300.8	-5.2
Public transportation	419.6	422.2	421.2	422.2	423.7	425.4	1.4
Medical care	418.2	422.3	425.8	428.0	429.7	432.0	3.3
Entertainment	270.8	272.0	271.9	272.3	272.9	273.9	1.1
Other goods and services	339.1	340.3	341.1	341.8	342.1	342.6	1.0

*Consumer Price Index for all Urban Consumers

Source: Bureau of Labor Statistics, U.S. Dept. of Labor

1400 copies printed at an estimated cost of 0.50 each for educational purposes.